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DIALECTICAL MATERIALISM AND SOVIET PSYCHOLOGY: A SYSTEMATIC AND CRITICAL ANALYSIS OF MARXIST-LENINIST PHILOSOPHY AND ITS IDEOLOGICAL COUNTERPARTS IN THE DEVELOPMENT AND CONTENT OF SOVIET RUSSIAN PSYCHOLOGICAL THEORY

by

© FARIDA ELIZABETH ABOUL-DAHAB

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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submitted by Farida Elizabeth Aboul-Dahab

in partial fulfilment of the requirements for the degree of Master of Education

in Soviet Philosophy and Psychology,

Department of Educational Psychology.

W. H. O. Schmidt
Chairman

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Co-chairman and adviser

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Date April 22, 1981

I dedicate this thesis to my sisters
Magda Salib, Salma and Amira
Kamel Aboul-Dahab

ABSTRACT

This work is divided into two parts each one of which containing four chapters. Part One consists of a systematic presentation of contemporary Soviet Russian dialectical materialism. Chapter I deals with the basic issue of philosophy as formulated by Engels and following him Lenin and contemporary Soviet philosophy. It also deals with the principles of philosophical materialism and the close link which ties ontology and epistemology in Marxist-Leninist philosophy. Chapter II deals with the concept of matter per se. Lenin's contributions in the form of his Materialism and Empirio -Criticism are presented along with the contemporary Soviet philosophical theory of matter which has inherited much of Engels and Lenin's thought. Chapter III deals with the materialist dialectic, its meaning, principles, as well as its laws, namely, the unity and struggle of opposites, the transformation of quantity into quality and the negation of the negation. Chapter IV deals with logic and theory knowledge.

Part Two is concerned with the development of Russian psychology in its Soviet form from 1917 to the present time. The first chapter deals with the attempts to materialise Russian psychology between 1917 and 1929. This was a period characterised by a strong mechanist bent. The second chapter covers the period between 1929

and 1950, one during which Soviet psychology was moving towards the incorporation of dialectics and theory of knowledge. The third chapter deals with the 1950 Pavlovian Conference whose negative effects lasted till 1956, year at which the demotion of Stalin took place. The last chapter of Part Two deals with recent developments in Soviet Russian psychological theory, developments characterised by a ramification of fields of investigations and a decrease of the dogmatism characteristic of the nineteen forties and fifties.

ACKNOWLEDGMENTS

Even though I find the term "acknowledgments" too mild a word to encompass the magnitude of debts I owe to a number of people for the effective completion of this work, I hope that I can still faithfully express myself under this rubric.

My biggest debt goes to Mr. Peter McGuire without the constant help, precious advice, deep insights, and support of whom this study, which is partly the outcome of countless discussions I had with him, would have never seen the day.

I wish to thank all the members of my committee for their kind support and concern. I owe a great deal to Dr. Harry Garfinkle who, despite a very busy schedule, spent a great amount of time providing me with most invaluable advice with respect to every aspect involved in the production of this work. He also indicated to me a number of source materials and lent me numerous books from his personal library. All this, Dr. Garfinkle did with patience and generosity over a period of two years during which I never hesitated to call on him for help, encouragement and direction.

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AS SOON AS WE RUSSIANS REACH THE SHORE, AS SOON AS WE ARE SURE IT IS THE SHORE, WE ARE SO GLAD OF IT THAT WE LOSE ALL SENSE OF PROPORTION. WHY IS THAT? ... IT IS NOT ONLY WE WHO ARE SURPRISED AT OUR PASSIONATE INTENSITY IN SUCH CASES, BUT THE WHOLE OF EUROPE. IF A RUSSIAN IS CONVERTED TO CATHOLICISM, HE IS SURE TO BECOME A JESUIT, AND A RABID ONE AT THAT; IF HE BECOMES AN ATHEIST, HE IS SURE TO DEMAND THE EXTIRPATION OF GOD BY FORCE - THAT IS, BY THE SWORD! WHY IS ALL THIS? WHY SUCH FURY ALL OF A SUDDEN? DON'T YOU KNOW? BECAUSE HE HAS FOUND HIS MOTHERLAND AT LAST, THE MOTHERLAND HE HAS MISSED HERE, AND HE FEELS HAPPY; HE HAS FOUND THE SHORE, THE LAND, AND HE RUSHES TO KISS IT! IT IS NOT FROM VANITY ALONE, IT IS NOT FROM BAD, VAIN FEELINGS THAT RUSSIANS BECOME ATHEISTS AND JESUITS, BUT FROM SPIRITUAL AGONY, FROM SPIRITUAL THIRST, FOR A YEARNING FOR HIGHER IDEALS, FOR THE FIRM SHORE, FOR THE MOTHER COUNTRY IN WHICH THEY HAVE CEASED TO BELIEVE BECAUSE THEY HAVE NEVER EVEN KNOWN IT!

DOSTOYEVSKY
(THE IDIOT)

INTRODUCTION

The aim of this study is multifold. As the title suggests, this work consists of a systematic presentation and a critical discussion of the doctrines of dialectical materialism. On the other hand, it deals with the development of Soviet Russian psychological theory in its successive attempts to build itself on the teachings and principles of dialectical materialism.

These are the most apparent purposes of this thesis. However, they co-exist with other not less explicit and no less important ones: to show the link, in Soviet thought, which ties philosophy and science through ideology. This triple relationship endows dialectical materialism, as a philosophical doctrine, with some characteristics which are usually not associated with philosophy in the Western sense of the word which wants this discipline to be mainly concerned with a quest for truth. A psychology which founds itself, in its theory and content, on the teachings of dialectical materialism will, in its turn, exhibit all the features and characteristics of a philosophy whose aim is greatly determined by revolutionary action and the preservation of communism.

In our presentation of the doctrines of dialectical materialism, we followed a strictly objective line of procedure, limiting ourselves to Soviet accounts. Any criticisms of these doctrines were done from within and not from a preconceived philosophical position. By way of introduction we will, after a brief review of the literature, provide some definitions of terms, and set the scope and framework of this thesis.

1. Review of Literature

A. Soviet Textbooks on Marxist-Leninist Philosophy

The number of Russian textbooks translated into English is quite limited. In exposing the philosophy of dialectical materialism, we relied almost exclusively on works translated from Russian and published in Moscow. For the most part, these books represent official or semi-official publications. We will here mention the major ones:

Rozenthal and Judin's Dictionary of Philosophy (1967) which outlines in dictionary form the major tenets of dialectical and historical materialism; the Fundamentals of Marxism-Leninism (Second Edition, 1963), The Fundamentals of Marxist-Leninist Philosophy (1974); The Great Soviet Encyclopedia (3rd edition, 1970-1974); Spirkin and Yakhoot's Basic Principles of Dialectical and Historical Materialism (1971), Glezerman and Kursanov's Historical Materialism (1968). Moreover, we relied on the work edited by Blakeley and entitled Themes in Soviet Marxist

Philosophy (1960) which consists of a selection of articles translated from the Filosofskaja Enciklopedija (Philosophical Encyclopedia).

As we can see, the above-mentioned works range from 1960 to 1974. We have intentionally tried to use all these sources in order to show on the one hand, the uniformity of style and opinion exhibited in all the Soviet philosophical writings, and on the other hand, the fact that the content of the tenets of dialectical materialist philosophy have been so far impervious to the passage of time.

As to the works of the Marxist "Classics", we mainly relied on Engels' Ludwig Feuerbach, Dialectics of Nature, and Anti-Dühring, as well as on Lenin's Materialism and Empirio-Criticism and the Philosophical Notebooks.

B. Western Books on Soviet Philosophy

As to the major Western books on Soviet philosophy which we consulted, they can be divided into four categories:

1. Works on Soviet dialectical materialist philosophy such as Bochenski's 1963, Soviet Russian Dialectical Materialism, Wetter's 1959 Dialectical Materialism, and his 1962 Soviet Ideology. These books are very good presentations of the content of dialectical materialism. Wetter's 1962 work also contains an important

section on historical materialism.

2. Works dealing with specific aspects of dialectical materialism, such as Bonjour's 1967 Categories of Dialectical Materialism and Blakeley's (1964) Soviet Theory of Knowledge. Along with these, we can also mention Laszlo's 1967 Philosophy in the Soviet Union which contains a selection of articles written by Western students of Soviet philosophy.

3. Works which deal with some characteristics of Soviet philosophy as a whole, both in theory and in practice. Here we can mention Althusser's 1971 Lenin and Philosophy and Other Essays, Joravsky's 1961 Soviet Marxism and Natural Science, and De George (1966) Patterns of Soviet Thought.

4. Critical works which reinterpret some aspects of Marxist-Leninist philosophy. Among these are Schmidt's 1971 The Concept of Nature in Marx, and Marcuse's 1958 Soviet Marxism.

The above-mentioned books are amongst the best works written in the West on Soviet Thought in general and Soviet philosophy in particular. Although they sometimes tend to offer a Western, and in the case of Wetter and Bochenski, a religious evaluation of Soviet philosophy in a way alien to the very essence of this philosophy, they were of valuable assistance to us.

C. Soviet Works on Russian Psychology

The Russian sources available in English can be divided into articles and books dealing with the history (or achievements) of Soviet psychology and/or with a particular theory. There are practically no English translations of Russian books written on the history of Soviet psychology. As a rule, we had to rely partly on Russian articles translated into English and published in American journals and especially in the series entitled Soviet Psychology which contains a selection of articles taken from the Russian periodical Voprosy Psikhologii. Amongst these articles we can mention the major ones: Borovski's 1929 article entitled "Psychology in the U.S.S.R" as well as Ananiev's 1948 "Achievements of Soviet Psychology"; Leontyev and Smirnov's 1967 survey of Soviet psychology; Lomov's 1979 "Sixty Years of Soviet Psychology." As a rule however, these articles do not mention the various Party interferences (in the form of ordinances, decrees and official condemnations) which took place in a consistent fashion throughout the history of Soviet psychology. For this type of information we had to rely on Western sources.

As far as content is concerned, we partly relied on various articles written by Leontyev, Luria, Vygotsky, Rubinshtein and Teplov and published in Soviet Psychology, as well as on some English translations of books written by some of these authors.

D. Western Works on Soviet Psychology

Among the most important books written in the West on the history, theory and content of Soviet psychology, which provided us with invaluable information and assistance in our work, we can mention the following: Bauer's 1952 New Man in Soviet Psychology, Rahmani's 1967 Soviet Psychology, as well as McLeish's books on the same topic (1975), Payne's 1968 S.I. Rubinshtein and the Theoretical Foundations of Soviet Psychology, and Slobin's (editor) 1966 Handbook of Soviet Psychology.

Apart from these books, numerous articles written on this topic and listed in the bibliography provided us with precious information. Among these we can single out for mention, Ivan London's 1949 "Historical Survey of Psychology in the Soviet Union". The aforementioned Western works on Soviet psychology are probably the best available sources of information written in the West on the topic.

2. Components of Marxist-Leninist Philosophy

Dialectical materialism is one part of the Marxist-Leninist philosophy of which historical materialism constitutes the other part. Apart from its being defined as a scientific world view, and a universal method of cognition of the world, dialectical materialism is said to be "the science of the most general laws of movement and development of nature, society and consciousness" (Soviet Encyclopedia, 1970, Vol. 8: 187). As to historical materialism, it is this more specific aspect of Marxist-Leninist philosophy and the result of the application of materialism and dialectics to the study of human society. It is said to be this philosophical science which deals with the relation of social consciousness to social being and with the most general laws and motive forces of human social development (Spirkin, 1971: 99).

Dialectical and historical materialism are said to have been created by Marx and Engels at one and the same time, and as an integrated whole (ibid.: 19).

In our present study, we will confine ourselves to dialectical materialism. We feel justified in this endeavour because dialectical materialism represents the "scientific" aspect of Marxist-Leninist philosophy (including a philosophy of science) and has thereby been most influential for Soviet psychological theory.

Although Soviet philosophy holds dialectical and historical materialism as the inalienable parts of Marxist philosophy, they are still dealt with in Soviet writings under completely separate headings. In fact, while dialectical materialism pertains to nature (being), and consequently, to natural sciences, historical materialism pertains to social sciences by virtue of its concern with social being. Marcuse (1958: 145) argues that such a division "would have been meaningless to Marx, for whom dialectical materialism was synonymous with historical materialism". In fact, when Marx and Engels developed their theory of dialectics, the origin and form of which they took from Hegel, they stressed this reality in human history which makes up the struggle between the exploiting and the exploited classes in capitalist societies where the relations of productions and the forces of production result in an unequal distribution of goods. The role of dialectics was conceived by them as a revolutionary one which was to change the material reality under socialism, a reality which was to be seen as a dialectic of subject and object. Thus, dialectical materialism became this particular type of philosophy which viewed the history of mankind as one determined by the material forces inherent in it. The separation between historical and dialectical materialism was never made explicit in the writings of Marx. Although the Soviets still put a tremendous amount of emphasis on the revolutionary character of their philosophy, their interpretation of the dialectic makes it a ground on which historical and suprahistorical laws are manifested. These suprahistorical laws, as Marcuse (ibid.) remarked, are made into a system of propositions whereby they are claimed to be the determining forces in nature as well as in history. Thus, from historical in Marx, dialectic under the Soviet regime becomes akin to science, with history "reified into a second nature" (ibid.). This fact is partly due to the Soviets' heavy reliance as well as the emphasis they put on Engels' Dialectics of Nature and Anti-Dühring whereby he attempted to show that the laws governing social history and which he had elaborated along with Marx are at work in nature as well. Another factor which contributed to the naturalisation of the dialectic in Soviet philosophy is due to Stalin's declaration of the permanent state of the dictatorship of the proletariat which Marx had considered only as a step towards the transition to communism, as well Lenin's further elaboration of the concept of partiinost (partisanship) in philosophy and science.

3. Classification and Content of Dialectical Materialism

Dialectical materialism contains a theory of knowledge which outlines the steps to be taken in the cognition of the world, a method termed "dialectical" which explains development, and a theory of reality which is monistic and materialist. This classification corresponds to the Western division of philosophical disciplines into epistemology, logic, and ontology. However, the Soviets do not use these terms to describe the components of their philosophy. Refusing to separate logic, epistemology (theory of knowledge) and ontology (dialectic), they regard being, whether natural or social being, in their actual unity. Being is considered in its relationship to man, his consciousness and activity. On the other hand, the theory of knowledge of Marxist philosophy is substantiated ontologically, since the laws of cognition are ultimately the reflection in man's consciousness of the general laws of being (natural and social). Moreover, thought and consciousness draw their content from reality through man's practical activity (Fundamentals of Marxist-Leninist Philosophy, 1974: 35). Thus, dialectics is at once a logic, a method and a theory of knowledge (ibid.).

It is this fusion of these three disciplines which is regarded by Soviet philosophy to constitute the originality of Marxist materialism over and above all pre-Marxist endeavours (Soviet Encyclopedia, 1974, Vol. 15: 561). At the same time, dialectic, logic and theory of knowledge are regarded as relatively distinct (Fundamentals of Marxist-Leninist Philosophy, 1974: 35), a thesis which is never made clear in Soviet writings and which results in a great confusion of terms.

Order of Presentation of the Tenets of Dialectical Materialism

In the course of time, contemporary Soviet philosophers have developed a consistent way of treating the problems which they consider to belong to dialectical materialism. As a materialism, i.e., as maintaining the primacy of being (matter) over thought and spirit, dialectical materialism begins with the consideration of the materiality of the world and reality. But since, it is not any type of materialism, but the dialectical one, the second treatise deals with the dialectic and its laws. Finally, since the belief in the primacy of matter over thought further entails the thesis on the knowability of the world, the final consideration has to do with the nature of thought, its validity, and the process of knowledge.

The standard Russian textbook presentation of dialectical materialism has the following major sections (in the order outlined here):

1. The basic question of philosophy
2. Matter and the basic forms of its existence
3. The universal dialectical laws of development
4. The theory of knowledge of dialectical materialism

(Fundamentals of Marxist-Leninist Philosophy, 1974).

In our presentation of dialectical materialist philosophy we have followed, as faithfully as possible, the same chronological order of exposition used in Soviet textbooks. Any minor variations which our work might exhibit do not consist of a departure of the Soviet scheme of procedure, but are rather due to problems of organisation of the material dealt with. For instance, because consciousness appears twice in dialectical materialism, once as a property of matter and once as an organ of knowledge, we had to deal with it in different sections of the thesis. We briefly dealt with consciousness as a property of matter in chapter II (Part One) dealing with the Concept of matter,(and again in Part Two, in the section on psychology). As to consciousness as an organ of knowledge, we dealt with it in chapter IV (Part One) when dealing with the theory of knowledge. This scheme is followed by Spirkin in his 1971 textbook on dialectical and historical materialism.

4. Types of Pre-Marxist Materialism

In presenting the philosophy of dialectical materialism, Soviet writings insist, as we shall see throughout this thesis, that their philosophy is a result of the highest stage of development of world philosophical thought, one which has assimilated all that was best and most progressive in the previous centuries (Fundamentals of Marxist-Leninist Philosophy, 1974: 15). Soviet philosophers further claim that the originality of dialectical materialism lies in the fact that in it, dialectics and materialism are indissolubly united, forming an integrated entity (Fundamentals of Marxism-Leninism, 1963: 59; Spirkin, 1971: 13). They are thus eager to differentiate their materialism from any previous attempts. The terms metaphysical, vulgar, mechanist are pejorative terms used to describe all pre-marxist materialist schools. Because we are using these terms in the Soviet sense, we will briefly define them:

- Mechanical materialism (La Mettrie, Diderot, Priestly) regarded all phenomena of nature and social life from the standpoint of mechanics, and hoped to explain these phenomena by its aid (ibid.: 27).

- Vulgar materialism (Vogt, Buchner, Moleschott) rejected philosophy in general and set to resolve all philosophical problems by concrete scientific investigations. They identified consciousness with matter, and thought of the former as a material secretion of the brain. In general, vulgar materialists (largely positivists) do not understand that man's consciousness is a social product governed by social being (Dictionary of Philosophy: 279).

- Metaphysical materialism (or metaphysics as a philosophical trend) considered objects and phenomena in isolation from one another, as immutable and devoid of internal contradictions.

The different variations and nuances of these positions will become clear throughout the thesis.

5. Soviet Psychology: Development and Periodisation

In Rozenthal and Judin's Dictionary of Philosophy (p. 370), psychology is defined as follows: "a science, dealing with one of the aspects of the interaction of the subject and the object. The object of psychology is the psychic qualities and conditions of the subject". Moreover, it is said (ibid.) that "psychology as a science founded on dialectical materialism was created in the U.S.S.R.".

In common with other sciences in the Soviet Union, Soviet psychology was largely determined in its development and content by ideological considerations which exercised a crucial influence on the formation of its basic theory. Over the years, a significant body of principles has gradually arisen and came to be recognised as the official and obligatory foundation for Soviet psychological theory.

The history of Soviet psychology has been determined, to a great extent, by the series of continuous efforts to build it on the principles of dialectical materialism. Even though none of the "Classics" of Marxism-Leninism wrote a work on psychology, Soviet psychologists have attempted, on the basis of passing and cryptic comments in the writings of the "Classics", to build a theoretical framework for their science. Three philosophical elements have been most influential in the formation of psychological theory. These are materialist monism, the dialectical nature of reality and the Leninist theory of reflection. These three doctrines have influenced Soviet psychology in that order. Thus, Soviet psychologists successively decided that their science must be materialist, dialectical and based on the Leninist reflection theory.

The materialisation of Soviet psychology occurred in the years immediately following the revolution. During these years it was thought that materialism was the necessary and sufficient requirement for a Marxist psychology. However, by the middle of the nineteen twenties, mechanism as a major tendency dominated the psychological scene. The late twenties witnessed a crescendo in discussions and debates on the foundation of Marxist psychology which culminated in the official condemnation of mechanism and Deborinism alike and the consequent attempt to incorporate dialectics along with materialism. During the early nineteen thirties Leninist epistemology was incorporated in Soviet psychological theory.

These three elements, materialism, dialectics and theory of knowledge remained the basic components of

Soviet psychological theory until 1950 when the famous Pavlovian Conference took place. As a result of this Conference, Pavlovian teaching with its reductionist elements was to be added to the edifice of Soviet psychological theory and to act as "the scientific counterpart" of Marxist-Leninist reflection theory. Psychologists had to wait till the early nineteen-sixties to be liberated from the stifling effects of the decisions to pavlovianise Soviet psychology, and indeed all physiological sciences. The nineteen sixties witnessed a branching out phenomenon whereby new areas of investigation, not linked in any explicit way to neurophysiology were opened, and the dogmatism of the Stalinist period much softened. This trend is continuing to the present day, which is not to say that Soviet psychologists have forgotten their Marxist-Leninist heritage! More than ever, the principles of dialectical materialism are proclaimed as being the constituent principles of Soviet psychology, and the role of psychology is viewed as one of promoting the cause of Communism and the formation of the "New Soviet Man".

The differentiation of phases of development of Soviet psychology presents no great difficulties. The reason for this is that with political and intellectual matters alike, manifestoes and decrees which mark the rejectance and origin of a particular trend of thought, are issued by the Central Committee and other organs of the Communist Party.

In our presentation of the development of Soviet psychological theory from the Revolution to the present, we will not restrict ourselves to a mere historical survey. Rather, along with outlining the different phases of development of Soviet psychological theory on the basis of dialectical materialism, we will deal with the content of the different theories and schools of thought which were prominent at each one of these phases. In this way, we allow the reader to draw his own conclusions as to whether or not, and the extent to which the various schools which emerged as an alternative for a Marxist psychology really fulfilled this task.

The relationship between dialectical materialism, science and ideology in the Soviet Union is best concretised in the history of Soviet psychology in its failures and successes to build itself on Marxist-Leninist philosophical principles.

6. The Relationship of Philosophy and Science in Soviet Thought

In the view of official Soviet thought, dialectical materialism is neither exclusively a general theory of the world built on the natural sciences, nor exclusively a methodology, but both of these at one and the same time. In the first place, it is a world outlook, a theory of reality, and as such, it deals with the same object of study of the special sciences. The question arises then about the legitimacy of existence of philosophy alongside the special sciences.

Soviet philosophy distinguishes its own position from the pre-Marxist solutions to this problem, thus outlining the originality of its own position. In antiquity, philosophy was the only science and as such, it contained the elements of social and natural sciences. All branches of knowledge were subordinated to philosophy. During the Renaissance, however, one field of science after another detached itself from philosophy as an independent science. Nevertheless, philosophy still maintained its position as the "science of sciences". During the 19th Century, there arose a new trend, namely positivism, which denied philosophy any right to be. Thus, from total subordination (antiquity), to antagonism (19th Century); such was the situation until the arrival of Marxism. Briefly, Soviet philosophical attitude runs as follows: non-dialectical thought views the relation between philosophy and the sciences as an alternative: either science or philosophy. The position which favoured the former over the latter (metaphysics) led to the absorption of the particular (science) by the general (philosophy); the position that favoured the latter led to the dissolution of the general into the particular (positivism) (Dictionary of Philosophy).

In the process of differentiation of science from philosophy, a process established as a historical fact and recognised by the Soviets as such, the question still remains of whether this differentiation, by restricting the subject matter of philosophy, bear the seeds of the elimination of this discipline. The Soviet answer to this question establishes the legitimacy of a science of philosophy apart from natural science, then it proves that the two can be interfused. It is in the context of the methodological principle of the relation of the categories of philosophy (general) and those of science (particular) that Soviet philosophy solves this problem, claiming to have reached a new era:

> The emergence of dialectical materialism: essentially was the culminating point in the historical process by which philosophy became a separate science with a specific object of research.
> (ibid.: 276).

That philosophy did not lose its object of study is justified by the fact that while scientific research is directed to a restricted part of reality studying the laws pertinent to this particular field, philosophical investigations study these same laws at their highest degree of generality in the form of universal and general categories applicable to each and every field of science

(Spirkin, 1971: 7).[1] Hence philosophy being distinct from science. However, there is another aspect to the dialectical relations of the general to the particular: The former does not stand over and beyond the latter. That science studies the same world as philosophy, albeit at a more specific level, means that the reciprocal relations of philosophy and science are no longer reduced to antagonism or subordination, as in pre-Marxist times, but rather the relation is that of interfusion and supplementation. Dialectical materialism interprets the results of the natural sciences while the latter furnishes concrete data which confirm the theses of diamat on the one hand and serve as a starting point to dialectical materialism's generalisation on the other hand (Fundamentals of Marxist-Leninist Philosophy, 1974).

The thesis of the investigation by dialectical materialism of the phenomena of the world at a high degree of generality entails the question of what, concretely speaking, philosophy offers to science. For, if the dialectic is defined in the same way as philosophy, as the "science of the most general laws governing the development of nature, society and thought" (Dictionary of Philosophy: 120), it follows that its methods and concepts would be applicable to the most scientific of all fields of investigations, namely those of nature. This is what philosophy offers to science at the most basic level: a methodology "which yields the correct scientific approach to phenomena and processes" (ibid.: 276) and which, being "strictly obligatory for all sciences" is employed by workers in all branches of Soviet science (Fundamentals of Marxism-Leninism, 1963: 86-88).

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[1] In the words of Spirkin (ibid.): "Physics, mechanics, biology and all other sciences study so-called particular laws, i.e., laws followed by some particular class of natural phenomena. But philosophy studies the most general laws, i.e., the laws that are the basis of all phenomena of nature, including human society and human thought."

But this is not all; there is also the realist theory of knowledge and the principle of dialectical contradiction, which, the Soviets, quoting Hegel, view as "the life and soul of scientific progress, the dynamic which alone gives immanent connection and necessity to the body of science" (Dictionary of Philosophy: 121). In every scientific investigation, the scientist has to arm himself with dialectic, logic, and theory of knowledge; he is to be well acquainted with all the theses of dialectical materialism, because knowledge of this will enable the scientist to stand at the highest level of scientific methodology and the scientific world-outlook.

Similarly, philosophers are asked to be up to date as to scientific discoveries, because these provide them with precious elements that will confirm the theses of dialectical materialism on the one hand, and will help them establish generalisation on the other (Fundamentals of Marxism-Leninism, 1963: 57-58). Didn't Marx and Engels in their development of dialectical materialism take as their point of departure, a higher level of science, brought about by the discoveries of the laws of conservation and transformation of energy, the discovery of the cell, and Darwin's theory of evolution? (ibid.: 28).[2]

Thus, the Soviets' thesis of mutual interdependence is quite clear: No subordination of science to philosophy, but rather a fruitful cooperation. The philosopher must compare his work with the scientific results and the scientist has to be directed by the categories of dialectical materialism.

It seems clear that the scientific aspect of Soviet philosophy is bestowed upon this philosophy by virtue of its relationship with the sciences, one which is epistemologically and ontologically grounded. Ontologically speaking, its subject matter is the same as that of the natural sciences, and epistemologically speaking both dialectical materialism and the sciences proceed from the belief in an outside, objective reality existing independently of the human mind (and of any other mind).

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[2] In the words of the authors of the Fundamentals of Marxism-Leninism (1963: 276): "Dialectical materialism is a developing science. Every major discovery in natural science and the changes in social life serve to concretise and develop the principles and propositions of dialectical materialism, which absorbs the new scientific evidence and the historical experience of mankind".

This means that the point of intersection between the ontological and the epistemological in scientific research will correspond to the point of intersection between the ontological and the epistemological in philosophical theory. However, there is a major difference between the depth of these two intersections: Dialectical materialism transforms (on one level) this intersection which happens within its domain, into a SUPERIMPOSITION of the ontological and the epistemological, by defining matter, an ontological category, from the standpoint of its relationship with the outside world, therefore defining it epistemologically. Thus, the union of the ontological and the epistemological is thought to be preserved. But this is not all: In its attempt to be scientific, i.e., to bear the same characteristics of scientific spirit, dialectical materialism will once again make the superimposed levels relate to each other on a two dimensional basis, by supplementing the philosophical concept of matter (epistemological) with the theory of matter, one which is ontologically grounded since it is concerned with attributes, modes and categories of matter.

For the special sciences, however, there exists no conscious effort in this regard: The nature of scientific practice requiring that matter be studied in isolated units, naturally yields to a two-dimensional relationship between the ontological and the epistemological. There will still remain one crucial difference, in our sense, between dialectical materialism and the sciences: The former will treat matter and its properties from the point of view of their epistemological characterisation, since the above mentioned superimposition is crucial to any further attempt at ontology, while the latter's practice will emphasise the ontological since it makes no attempt to prove the existence of its object.

However, the threat of dialectical materialism remaining strictly philosophical lies at the moment when it will try to bring the ontological and the epistemological in a fusion while for science this fusion happens automatically. Furthermore, if truly, as the Soviets claim the relationship between philosophy and science is one of coordination and cooperation, how is it then, that throughout the history of the Soviet regime there have been a countless number of condemnations made by the Central Committee of a number of scientific theories on the account that they betrayed the spirit of dialectical materialism, the spirit of Marxism? We believe that the cue to this answer lies in the fact that dialectical materialism is not only a philosophy, but also an ideology. It is in this sense that the term scientific should also be understood when applied to the union of philosophy and science, with the former allowing the scientist "to detect all the distortions and falsifications with which bourgeois thought has stained and corrupted scientific knowledge" as well as to "ensure him of an immunity against idealism which leads science into the blind alley of agnocticism and subordinates it to religion" (Fundamentals of Marxism-Leninism, 1963: 88).

7. Philosophy, Ideology and Science: A Specification of Terms

For Marx and Engels, ideology referred mainly to the false conceptions or rationalisations of the ruling class used to justify the existing practices and institutions. In his preface to the Critique of Political Economy, Marx equated ideology with the legal, political, religious, aesthetic and philosophical forms of society.

These two meanings have been retained in Soviet writings, and although the term ideology is still used in Soviet philosophy to refer to bourgeois systems of views, its meaning has been expanded to signify the valid and true conceptions of practice under communism. In this sense, it comes to mean the same as World-outlook. The following definition of ideology is given in the Dictionary of Philosophy (p. 206):

> A system of views and ideas: political, legal, ethical, aesthetical, religious, philosophical. Ideology is part of the superstructure and as such ultimately reflects economic relations. In a society with antagonistic classes ideological struggle corresponds to the class struggle.

On the other hand, world outlook is defined in the same way as ideology, as "the system of views, concepts, and notions about the surrounding world" (ibid.: 482). It is often said in Soviet writings that "a consistently, scientific world outlook is the communist, Marxist-Leninist world outlook, i.e., Marxism-Leninism, of which dialectical and historical materialism is the basis and integral part" (ibid.). A distinction is usually made between the general and the particular meaning of the term. Thus, "the core of every world-outlook (in the narrower sense of the term) is made up of philosophical views" (ibid.). The wider interpretation includes in the conception of the world, not only philosophy, but also the other sciences. Science, viewed from a broad angle is defined as a system of understanding the laws of nature, society and thought. It is closely connected with the philosophical world outlook which "arms it with the knowledge of the most general laws governing the development of the objective world, the theory of knowledge and a method of investigation" (ibid.: 402). Thus, it seems that philosophy and science are closely tied together in the world-outlook that comprises them both.

Moreover, dialectical and historical materialism constitute a scientific philosophy, not only by virtue of its being based on achievements of natural science, but also, because, by this very endeavour it supplants or allows no place for religious and mystical views of the world. By the same token, any trend in idealist philosophy expresses an unscientific world outlook, not only because it is loaded with mysticism, but also because it "expresses the world-outlook of the reactionary forces, the imperialist bourgeoisie" (Fundamentals of Marxism-Leninism, 1963: 46). The meaning of ideology requires a specification of the group of individuals, it is supposed to serve. Dialectical materialism is said to represent the world-outlook or the ideology of the working class (ibid.). Thus, it seems that insofar as communist philosophy is presented as the philosophy of the working class, with no attempt to separate it from ideology (in the narrow sense of the world), it ceases to be philosophical and comes to mean ideology in the Western sense of the word. On the other hand, insofar as the term scientific is connected with a philosophy which serves the interests of the proletariat, which interests are said to be universal, it ceases to mean scientific in the Western sense of the term and comes to signify ideological in the same sense. By the same token, the universally scientific, i.e., that which represents general and universal laws of nature is philosophical in the true sense of the word, as a system of comprehending natural and social laws (Althusser, 1971). In order to grasp the specific meaning of ideology, we should turn our attention to the notion of partiinost in Soviet philosophy.

Partiinost

Soviet Communists and some of their most militant opponents agree in attributing to Lenin the current Soviet Marxist doctrine of partiinost (partisanship). In fact, Lenin is the Marxist classic who distinguished behind the "epistemological scholasticism" of empirico-criticism, "the struggle of parties in philosophy", one which "in the last analysis, reflects the tendencies and ideology of the antagonistic classes in modern society" (Materialism and Empirio-Criticism: 374).

The notion of partisanship in philosophy is defined in the Fundamentals of Marxist-Leninist Philosophy (1974: 39) as follows: "It implies mainly an adherence to one of the principal philosophical parties - materialism and idealism". The concrete aspects of this notion takes the form of a struggle against idealism, and a consistent "championing" of dialectical materialism (ibid.). This means that the tasks of Soviet philosophers mainly consist of the formation of the "new man" of communist society, the elaboration of the "human morality of communism", and "a more profound generalisation of the real process of Communist construction" (Dictionary of

Philosophy: 426). The mission of Marxist philosophy as a philosophy evolved by Marx and Engels is to overthrow the rule of the bourgeoisie, to abolish capitalism and to build a new communist society (Fundamentals of Marxist-Leninist Philosophy, 1974: 15). As Soviet Marxism sees it (and this was Marx's position), Marxist philosophy does not merely interpret the world, but rather, it is an instrument for transforming reality. Herein lies its revolutionary aspect (Spirkin, 1971: 19). Thus, it is first and foremost a fighting weapon of the working class and all working people who armed with this philosophy, "become fearless fighters for the realisation of Marxist ideals, the ideals of all progressive mankind" (ibid.).

As a means of summing up, we will here present the declarations of the third Party program of the 1961 Twenty-Second Congress of the Communist Party of the Soviet Union. According to this program, the tasks of philosophy is "to firmly defend and develop dialectical and historical materialism as the science of the most general laws of development of nature, society and human thought", to elaborate "the philosophical problems of modern natural science on the basis of dialectical materialism" and to "uphold the purity of the principles of Marxism-Leninism" (quoted by De George, 1966: 204-205). To this Krushchev added in his speech on the

Program: "Guided by the Leninist principle of the unity of theory and practice, the Party must regard the defense and creative development of Marxism-Leninism as its prime duty" (quoted in ibid.: 205).

Thus, it seems, as De George (ibid.: 200) and other Western writers such as Joravsky (1961), Wetter (1959), and Bochenski (1963) have remarked, philosophy is clearly the handmaiden of the party which relates theory and practice, while philosophers are busy writing in the history of philosophy or in special branches of philosophy (ibid.: De George). Here lies the crux of the meaning of ideology in the Western sense of the word, and in the sense we will use this term throughout this work. De George (ibid.: 230-231) distinguished ideology from philosophy in the following manner:

1. The component terms of an ideology are often unanalysed and are systematically ambiguous, whereas those of philosophy are non-contradictory and present a coherent whole.

2. The components of an ideology are held on authoritative grounds whereas those of philosophy are maintained on rational or experiential grounds.

3. The impetus behind ideology is not primarily understanding, but action, whereas the impetus behind philosophy is primarily understanding.

Using the above distinction, we think that a large number of the tenets of Soviet dialectical materialism is ideological and present, in a narrow sense of the word, a system of views which, without being analysed or clarified in any systematic way, are treated as axioms unamenable to change by virtue of the authority of their pronouncers (especially Engels and Lenin). This does not mean that no changes whatsoever occurred in the history of Soviet philosophy. It is true that some tenets of this philosophy, such as the concepts of materialism and idealism, as well as the basic issue of philosophy have not changed at all. However, other tenets such as the relationship between dialectical and formal logic and the double concept of matter have undergone slightly different interpretations. But they are never viewed as such; rather, they are always said to be "what the classics really meant".

In Soviet usage, apart from dogmatism, the ideological components of philosophy take concrete expressions which mainly consist of the control of philosophy and science in general by the Communist Party. This is manifested in several ways:

1. Direct interference from Party circles in theoretical domains in the form of decrees, ordinances, condemnations, demisions or imposition of one or more theories.

2. As a direct result of Lenin's partiinost, the

injection of dialectical materialism into science.

3. Modifications of some of the concepts of dialectical materialism (such as the laws of the dialectic as applied to social history) in view of preserving the Soviet régime.

4. Constant contraposition between Marxist and non-Marxist views with the former being acclaimed and the latter heavily attacked.

The aforementioned components of the term ideology/ideological will be elaborated and demonstrated throughout this thesis, and especially when we deal with the development of Soviet psychological theory.

PART ONE

SOVIET RUSSIAN DIALECTICAL MATERIALISM

CHAPTER I

THE BASIC ISSUE OF PHILOSOPHY AND THE FOUNDATION OF PHILOSOPHICAL MATERIALISM

Introduction

Although Soviet writers give equal credit to Marx and Engels as the first founders of the philosophy of dialectical materialism, the real source of this philosophy is found in Engels' Ludwig Feurbach (1886), Dialectics of Nature (1873-1886), and Anti-Dühring (1878). For, as Alfred Schmidt (1971) pointed out, it was not primarily Marx's intention to build a systematic ontology, as he was more interested in what was later called by Engels "the materialist conception of history" which constitutes a historiography, a theory of political economy as well as a sociology. In his Contribution to the Critique of Political Economy (1859), Marx substantiated his materialist view on history as follows: "The mode of production of material life determines the social, political and spiritual processes of life. It is not the consciousness of men that determines their being, it is their social being which determines their consciousness" (Tucker, ed., The Marx-Engels Reader, 1978: 4). Thus, in Marx's view, the motive force in history is the changing forces of production. In a given society, the social and spiritual elements derive from, and are determined by the forces of production existing in that society and by the relationships of production to which they give rise.

It is the sociohistorical character of Marx's concept of nature which distinguishes it from the outset, as Schmidt (p. 15) remarked. Marx considered nature to be "the primary source of all instruments and objects of labour" (Critique of the Gotha Program (1875), quoted by Schmidt: ibid.). All other statements about nature, whether of an epistemological or scientific nature have as an a-priori presupposition, social practice, i.e., society's technological and economic modes of appropriation. Natural phenomena as well as all consciousness of nature became in the course of history, functions of objective social processes. Marx demonstrated however, that the human life process itself was a natural environment, one which remains so even when understood and controlled. Under all forms of production, the power of human labour is "only the manifestation of a force of nature" (quoted in ibid.: 16).

In the Holy Family (1845) Marx gave a definition of matter from the point of view of social labour: "Man has not created matter itself. And he cannot even create any productive capacity if the matter does not exist beforehand" (quoted by Schmidt: 64). Similarly, in the Paris Manuscripts (1884): "A being which does not have its nature outside itself is not a natural being and does not share in the being of nature" (quoted in ibid.). Thus, for Marx, materialism signified that nature is to be seen in the epistemological realist sense of an externality, an objective reality. And although one can argue that this definition is a Hegelian one (Schmidt: 64), nevertheless, for Marx as for Feuerbach, materialism meant the rejection of idealism in general and the Hegelian one in particular. In this sense, materialism in Marx is the affirmation of the independence and primacy of being (matter) over consciousness, and that of social being over social consciousness. Although not explicit in the writings of Marx, ontological materialism was the point of departure of much of his thought, and took a definite position in his "materialist conception of history".

It is Engels who started off with the materialism implicit in Marx and formulated it into an explicit world outlook, a fact which explains the frequent references to Engels made in Soviet philosophical writing. One can say that Engels attempted to give Marx's materialist conception of history a philosophical foundation. This foundation took the shape of a definite standpoint on epistemology, signifying that being (matter) is prior to thought and that thought is a reflection of being. Engels thereby corroborated Marx's epistemological realist views of the relationship of the base to the superstructure.

To this epistemological realism, Engels linked an ontologically based materialist standpoint which he set in opposition to idealism, a fact which has been pointed out, as we will shortly see, by Western critics as a confusion between materialism and realism. In outlining the essence of philosophical materialism, Engels started with what he called the "great basic question of all philosophy", taking as his point of departure a level of generality which can encompass any further attempt made by any other special field of knowledge in this connection.

In this chapter, we will deal with Engels' formulation of the basic issue of philosophy, the criticisms laid against this formulation by Western writers, and what we consider to be the logic behind Engels' endeavour. Furthermore, after a brief exposition of Lenin's thoughts pertaining to this question, we will present the contemporary Soviet philosophical treatment of the basis of philosophical materialism. We hope that our presentation will throw some light on the dialectical materialist thesis pertaining to the inseparability of epistemology and ontology and the real meaning behind this thesis.

1. Engels' Basic Question of Philosophy

Engels' definition of the basic question of philosophy runs as follows:

> The great basic question of all philosophy,... is that concerning the relation of thinking to being .... The question of the relation of thinking to being, the relation of spirit to nature - the paramount question of the whole of philosophy - ... which by the way, had played a great part also in the scholasticism of the Middle Ages, the question: Which is primary, spirit or nature - that question, in relation to the Church, was sharpened into this: "Did god create the world or has the world been in existence eternally?
>
> The answers which the philosophers gave to this question split them into two great camps. Those who asserted the primacy of spirit to nature and,therefore, in the last instance, assumed world creation in some form or other ... comprised the camp of idealism. The others, who regarded nature as primary, belong to the various schools of materialism.
>
> The question of the relation of thinking and being has yet another side: in what relation do our thoughts about the world surrounding us stand to this world itself? Is our thinking capable of the cognition of the real world? Are we able in our ideas and notions of the real world to produce a correct reflection of reality?
>
> (Ludwig Feuerbach: 30-31).

A. Engels' Critics

This statement of the problem and the consequent classification of the systems which resolve it have been the object of a heavy attack on the part of Western critics of dialectical materialism. They all seem to agree that in this statement, Engels confused materialism with realism, that the antithesis he set between the former and idealism does not hold (Bochenski, 1963; Payne, 1968; Wetter, 1959, 1962) and that Engels' formulation of this problem leaves much to be desired in terms of exactitude thereby giving occasion in Marxist philosophy to an exceedingly fateful misuse of the concepts 'materialism' and 'idealism' (Wetter, 1962: 16). Wetter (*ibid*.) and Payne (1968: 21) argue as follows: In posing the question as to which is primary in the relation of thinking and being, spirit and nature, Engels tacitly equates thinking with spirit, and being with nature. These authors point out that Engels equates an epistemological question pertaining to the relation of thought to the oustide world with an ontological quite different one about whether spirit or nature comes first. As a consequence of this equation, materialism and idealism for Engels contain a two-fold meaning: The former refers to the view that spirit is a product of nature (being) which is an ontological statement, and the view that thinking (in the act of knowing) is determined by its being (nature) which exists independently of thought; this constitutes an epistemological statement. As to idealism, it similarly comes to mean the view that on the one hand spirit produces nature (an ontological statement) and that thought gives rise to being as the object of knowledge (an epistemological statement). Wetter (1962: 16) concludes that "under the headings of 'materialism' and 'idealism', we find a conflation of two very different things which ought not to be unconditionally coupled together".

Blakeley (1964: 11) and Bochenski (1963: 66-67) similarly remark that Engels' formulation of the "great basic question of philosophy" leads to divergent interpretations because in this formulation, spirit in materialism is related to nature as function to foundation, while thought is related to being (matter) as reflection to reflected. The first of these assumptions requires an ontological explanation while the nature of the second one demands an epistemological explanation, a distinction which Engels (and following him Lenin, Stalin and contemporary Soviet philosophy) does not make. This is taken by these critics as an equation and a confusion of the concept of epistemological realism with that of materialism (Wetter, 1962: 30). Payne (1968: 20) declares that "from this point of view, Engels' materialism is no more than the affirmation of epistemological realism" and Bochenski (1963: 74) affirms that "dialectical materialism states the fundamental problem of philosophy in an ambiguous fashion: this problem can be interpreted either as an epistemological or as an ontological one".

The aforementioned critics attempt to correct Engels' thought as to the real meaning of materialism and idealism in philosophy. Thus, they point out that the epistemological position which views the being of an outside world (in this case, matter) as one which exists independently of thought and consciousness leads to realism in philosophy and not to materialism as Engels takes it to be. The opposite attitude of realism, also an epistemological one, is idealism; it means that knowing signifies a positing or producing of the object known (Bochenski, 1963: 67; De George, 1966: 148; Wetter, 1962: 17). As to the real significance of materialism in philosophy, it lies in the ontological position which takes spirit to rank as a product of matter or nature. Therefore, since all which realism requires is the recognition of an outside being existing independently of the mind, one can be a realist without necessarily being a materialist. If one wants to make an ontological specification as to the nature of this outside being, then one will further be a materialist if this being is taken to be material in essence, and a spiritualist, if a divine or spiritual essence (God, for instance) is conceived of as the creator of matter and nature (ibid.).

The objection to Engels' formulation and following him, that of contemporary Soviet thought is not only that it does not draw the distinction between the ontological and the epistemological, a fact which leads to the division of all philosophy into materialism and idealism without consideration of the intermediate positions which could be taken, but also, that by this very endeavour, and from an intrinsically correct belief in the epistemological priority of matter, Engels and his followers infer the ontological priority of matter, an endeavour which constitutes a misuse of the notion of materialism (Wetter, 1959: 295). Wetter (ibid.: 282) argues therefore, that the fundamental opposition between materialism and idealism proper to dialectical materialism is built upon a hybrid meaning attributed to each of these philosophical tendencies:

> Insofar as [materialism] designates that system which maintains the primacy of Nature (matter) over Spirit, it signifies 'materialism' in the true sense of the word, but insofar as this same system is set in opposition to idealism and represented as a solution to the epistemological problem of the relation of thinking to being, the word 'materialism' in Engels' usage comes to mean the same thing as realism.

But it is not only the confusion of realism with materialism that Engels' critics attack. Their criticism aims above all at overthrowing the very foundation of this materialism proper, in its ontological characterisation. Thus, Wetter (1962: 31), one of the most vehement opponents of dialectical materialism states in his concluding remarks on the question that "if we now inquire as to the significance to be attached to the formulation of the 'great basic question' in establishing 'Marxist philosophical materialism', we see that it rests upon a fraud. Through the tacit identification of being and nature, the question whether Nature or Spirit is primary is already decided in favour of Nature".

The source of so sharp a statement is not totally justified, and we suspect that Wetter, a Jesuit priest is defending his own religious beliefs regarding the nature of reality. Although we think that the criticisms of the aforementioned writers pertaining to the conflation between the epistemological and the ontological, with the former being more stressed than the latter in Engels' formulation, are cogent and well-founded, we do not agree to consider this "conflation" or "equation" as a confusion. There were definite reasons for Engels' endeavour and such reasons are not taken into account by Western critics. In fact, none of the above mentioned critics try to grasp the logic behind Engels' formulation of the basic question of philosophy. We believe that the refusal (rather than failure) to separate ontology from epistemology is too fundamental a question in dialectical materialism to be overthrown on the grounds of its violation of established philosophical notions.

B. Refutation of the Western Criticisms of Engels' Materialism

To say that Engels' materialism is above all a realism is to ignore or chose to ignore the definite materialist standpoint exhibited in much of his writings. The statement in Ludwig Feuerbach on the basic question of philosophy does not constitute the entirety of Engels' views on what materialism consists of. In Anti-Dühring and the Dialectics of Nature, his treatment of materialism is, to a certain extent ontologically grounded as well. When a critic like Bochenski declares (1963: 68) that the "champions" of dialectical materialism "may confuse realism with materialism but they remain realists and very radical realists at that", he disregards a significant number of statements where, for instance, Engels declared that "the unity of the world does not consist in its being, although its being is a pre-condition of its unity" but that "the real unity of the world consists in its materiality" (Anti-Dühring: 65-66). This thesis on the unity of the world which constitutes the essence of philosophical materialism and the principle of materialist monism excludes the slightest possibility of interpreting the outside world in a sense other than the material one.[1] By conceiving of the being of nature in a strictly material sense, Engels incorporated the epistemological realist thesis on the independence of thought from the outside world with the ontological materialist thesis pertaining to the unity of the world. For him, the material world exists independently, not only of man's individual consciousness, but also of any consciousness whatsoever. In so doing, he invalidated a recourse to God the creator and eliminated all speculations on a transcendent. That this world is uniformly material also means that there is no other world existing besides it: "No spiritual world exists separately, besides the material world" (Anti-Dühring: 64); rather, from the movement of matter which is eternal and indestructible arises "every finite mode of existence of matter, whether it be sun or nebular vapour, single animal or genus of animal, chemical combination or dissociation, right up to animals with brains capable of thought" (Dialectics of Nature: 54).

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[1] Bonjour (1967: 96) is thus not justified when he claims that Engels' "realism is not explicit enough to eliminate idealism and spiritualism".

These statements and others show that Engels' materialism is fully materialist. When Wetter (1962: 28) scornfully remarks that Engels "does not rest content" with the notion of the material world being independent of all types of consciousness, but that he "also attempts to rule out the idea that beyond this material world of ours there might be another, immaterial, spiritual or 'heavenly' world", Wetter is not being consistent with his own criticism. For, doesn't Engels' above mentioned statement on the unity of the world make his position truly materialist in the very sense Wetter defined? The latter does not seem to take this fact into consideration; rather, he claims that Engels moves from realism to materialism without further ado.

Alfred Schmidt (1971: 19) recognises the unquestionable materialist kernel in Engels' position: "There can be no disputing in the fact that Engels was a materialist in the general philosophical sense. Ludwig Feuerbach and the End of Classical German Philosophy, Anti-Dühring, and the Dialectics of Nature all point clearly in this direction".[2]

The following point remains to be clarified: Why, since Engels' position was truly materialist, did he formulate the essence of philosophical materialism on such a level of generality as to make it akin to epistemological realism? The reason for this is not so simple, and seems to be multifold.

As we have already mentioned, from all the branches of philosophy, Engels was only willing to admit epistemology; he was aware of the danger of an ontology and tried to avoid it insofar as the latter was a characteristic component of metaphysical materialism which viewed reality as a fixed, unchanged entity. This partly explains the fact that when Engels attempted to define the philosophical essence of materialism and idealism, an essence which is embodied in a philosophical question of the broadest dimension, he stressed the epistemological question over the ontological one, all the while retaining ontology inasmuch as he had to deal with the concept of matter as an all-embracing explanation of the world.

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[2] Alfred Schmidt (ibid.) states that with Marx the situation is somewhat different: "The kernel of philosophical materialism contained in his theory of history and society and implicitely presupposed by it does not come so plainly into view and is difficult to establish."

But perhaps a more important reason behind Engels' endeavour resides in the fact that his formulation of the essence of his materialism was intended above all to differentiate it and oppose it to all previous philosophies, especially those of Hegel (to whom he was nevertheless indebted), Hume, Kant as well as the 17th and 18th century's materialism with its metaphysical and mechanistic components respectively. The crucial point for Engels was to delineate the most basic component akin to differentiate his position from any previous endeavours. This component found its expression in Hegel's philosophy in the form of an assimilation of the ontological question of the relation of spirit to nature with the epistemological one of that of thinking to being. Engels' materialism was a synthesis of disparate elements inherent in previous philosophies. Thus, he took his materialism from the mechanist tradition of the 18th century, all the while rejecting its mechanist aspects. Hegel's dialectic was to replace this mechanism, while his idealism was to be supplanted by a dialectical materialist outlook. In order to fully acknowledge this fact, we should situate our analysis in the context of Engels' position in Ludwig Feuerbach.

After formulating his "great basic question of all philosophy , Engels immediately proceeded to say that "these two expressions, idealism and materialism, primarily signify no more than this; and here also they are not used in any other sense. What confusion arises when some other meaning is put into them will be seen below" (p. 31). He further proceeded to specify these philosophical schools which, all the while presenting some aspects akin, now to materialism, now to realism, were built nevertheless on notions akin to idealism or agnocticism, notions which stand in opposition to dialectical materialism with regards to their position towards the ontological question of the relationship of spirit to nature, and the epistemological one of that of thought to being. Concerning the latter, Engels says: "in philosophical language this question is called the question of 'identity of thinking and being', and the overwhelming majority of philosophers give an affirmative answer to this question" (ibid.: 31). Here Engels refers to Hegel's philosophy, which, exemplifies "par excellence" such an identification: "With Hegel, for example, its affirmation is self-evident; for what we perceive in the real world is precisely its thought content - that which makes the world a gradual realisation of the absolute idea, which absolute idea has existed somewhere from eternity, independent of the world and before the world" (ibid.: 31-32.).

Hegel's epistemological belief in the existence of an outside world independent of consciousness is complemented with the ontological one which views this outside world to be the embodiment of an absolute idea. This latter, ontological notion thus cancels the epistemological realism of the former and leads to the further view of the identity of thought and being, which view assimilates in its essence two different levels of reality (the ontological and the epistemological). For, according to Hegel, thought and its object possess a common denominator, namely reason, which constitutes the substance of thought as well as of its object. Infering the unity of the world from the identity of thought and being and formulating the essence of this being as the unfoldment of the absolute Idea, Hegel was attributing to being (the Idea) a primary position in the hierarchy of reality.

In opposition to Hegel's objective idealism, Engels attempted to deduce the unity of the world from the belief in an outside, objective world which stands independently from "being" and reflected by it. But, lest this being be thought to be of a nature other than material, in opposition to Hegel, Engels advanced, as we already mentioned, the thesis on the material unity of the world, a thesis which restores the primacy of being (matter) over thought all the while assimilating the ontological and the epistemological realms of reality in a fashion which constitutes the reverse of Hegel's similar endeavour from a different standpoint. Thus, Engels could define his philosophy in opposition to Hegel's philosophy:

> While materialism conceives nature as the sole reality, nature in the Hegelian system represents merely the alienation of the absolute idea. In all circumstances thinking and its thought-product, the idea, is here the primary, nature-derived element, which only exists at all by the condescension of the idea.
> (*ibid.*: 28).

It is in *Anti-Dühring* and the *Dialectics of Nature* that in opposition to Hegel, Engels elaborated the thesis on the material unity of the world. Referring to Hegel, Engels (*Anti-Dühring*: 64) declared that to attempt to prove the reality of any product of thought by the identity of thinking and being "was indeed one of the most absurd delirious fantasies of a Hegel".

It thus becomes clear that both in Hegel and in Engels the relationship of thought to being is the pivot of their philosophy. In Hegel this relationship was based on an ontological premise. For Engels too the ontological view of the primacy of being (matter) over thought is a pre-condition for the epistemological view on the independence of thought from being.

In order to complete our understanding of Engels' definition of the basic question of philosophy, let us turn our attention to the other philosophical schools which, apart from that of Hegel, Engels was reacting against. Thus according to his own words in Ludwig Feuerbach (p. 32): "In addition there is yet another set of different philosophers- Those who question the possibility of any cognition of the world - To them, among the moderns, belong Hume and Kant, and they have played a very important role in philosophical development".

Thus, against the agnosticism of Hume and Kant,[3] Engels affirmed the ability of man to know the world, and ironically enough, he cites Hegel as a crown-witness for the refutation of their position: "What is decisive in the refutation of this view has already been said by Hegel - in so far as this was possible from an idealist standpoint" (*ibid*.). Engels formulates this refutation by paraphrasing Hegel's thought that knowledge of all the qualities of a thing means knowledge of "the thing itself". Upon this knowledge nothing remains "but the fact that the said thing exists without us; and when your senses have taught you that fact, you have grasped the last remnant of the thing-in-itself, Kant's celebrated *Ding an sich*" (Engels, *On Historical Materialism*: 11).

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[3] It is worth mentioning that although Engels labeled the philosophy of both Hume and Kant "agnostic" these two philosophers differ in that Hume denies that there is an objective world. Thereby, his is subjective idealism. The situation for Kant is different. He recognises the existence of the outside world but denies the knowability of the "thing-in-itself" of this objective world. His is agnocticism in the true sense of the word.

This thing-in-itself however, in Engels' view, is not to be taken as a uniform, fundamental principle for explaining the world. The dialectical interpretation of this thing-in-itself which in Engels' philosophy would be equivalent to matter, requires first and foremost the rejection of the notion of a final, immutable essence of things, of an "absolutely fundamental substance", from whose ultimate properties everything which exists can be derived. In his Notes to *Anti-Dühring* (pp. 521-522), as well as in the *Dialectics of Nature* (p. 337), Engels expressed himself in the following manner on the concept of matter:

> Matter as such is a pure creation of thought and an abstraction. We leave out of account the qualitative differences of things in lumping them

> together as corporeally existing things under the concept of matter. Hence matter as such, as distinct from definite existing pieces of matter, is not anything sensuously existing.

This above definition views matter, not so much ontologically but rather as an abstraction, in anyway without reference to the epistemological dimension; it is responsible for the contemporary Soviet notion of matter as the most general of concepts. The only way in which Engels accepted an ontological interpretation of matter is in the sense of its concrete forms of existence, its properties and qualities. In his Dialectics of Nature (p. 313), he dealt again with this question: "Matter and motion cannot ... be known in any other way than through the investigation of the separate material things and forms of motion ... by knowing these we also, in the same measure, know matter and motion as such". The dialectical interpretation of the concept of matter was necessary if Engels was to supplement in his own philosophy, the limitations which he saw in mechanistic materialism with its "metaphysical, i.e., anti-dialectical manner of philosophizing connected with it" (Ludwig Feuerbach: 37). And although Engels tried to overcome ontology which was inherent in the previous materialist schools, he was aware that one cannot succeed at this if at the same time one makes use of the concept of matter to make the origin of the universe comprehensible.

Thus, as Schmidt (p. 35) remarked, wherever matter is used to provide an all-encompassing interpretation of the world, Engels was obliged to proceed from it as a universal principle and not from one of its concrete forms.[4] Thus, in the Dialectics of Nature (p. 322), Engels remarked:

> *Final cause:* matter and its inherent motion. This matter *not an abstraction*. Even in the sun the different substances are dissociated and without distinction in their action. But in the gaseous sphere of the nebular cloud all substances, although present separately, *become merged in pure matter as such*, and operate only as matter, not with their own specific properties.

But this final cause which constitutes matter in motion is opposed to the metaphysical materialist notion that this motion "turned eternally in a circle and therefore never moved from the spot"; for Engels (and following him Lenin and present-day Soviet philosophy) dialectical materialism treats motion, this causa-finalis, as a reciprocal action, thereby comprehending the universe "as a process - as matter developing in an historical process" (Ludwig Feuerbach: 37). Against metaphysical materialism which viewed the universe as made up of an ultimate essence, thereby in the end result assuming a First Mover, Engels and his followers see motion in its activity, as a force which "cannot be created" but which "can only be transferred".

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[4] In his Concept of Nature in Marx (p. 27) Alfred Schmidt states that "only by recognising, as Marx does, that material reality is from the beginning socially mediated, is it possible to avoid ontology and to do justice to Engels' formulation that matter as such is an abstraction, that matter is really present only in definite modes of existence".

In Dialectics of Nature (p. 307), Engels further defined the nature of the epistemological question concerning knowledge of matter as knowledge of its properties:

> Reciprocal action is the true *causa finalis* of things. We cannot go back further than to knowledge of this reciprocal action. If we know the forms of motion of matter..., then we know matter itself, and therewith our knowledge is complete.[5]

We shall not go into any more details on Engels' elaboration of the concept of matter. It is sufficient to mention, and this will become clear in the next chapter, that Lenin and contemporary Soviet philosophy have inherited from Engels' his distaste for ontology; furthermore, Engels' views on matter form the core of contemporary Soviet philosophical writings on the question, remained unchanged ever since they were formulated.

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[5] By reciprocal action Engels meant the transformation of mechanical motion into heat, electricity, magnetism, light, etc., and vice-versa (*ibid*.: 306).

2. Lenin and Materialism

In his Materialism and Empirico-Criticism (1908), Lenin reminds the reader of Engels' delineation of the fundamental trends of philosophy into materialism and idealism. He states Engels' position as to the essence of materialism consisting in the belief in the primacy of matter and the derived nature of spirit, and that of idealism residing in holding the opposite beliefs. He adds immediately after this statement that this "root distinction between the two great camps" into which various philosophical trends are divided is considered by Engels as the cornerstone with no other meaning to be attributed to the terms idealism and materialism (p. 94). This distinction as we have just seen is an ontological one since it is based on the notion of the primacy of matter over spirit. It would have remained so had he not immediately set off to quote Engels' passage on the basic question of philosophy thereby introducing the epistemological element of realism and assimilating it with the ontological dimension. Lenin further insisted that he refused to set realism (instead of materialism) as the opposite of idealism, i.e., that he refused to separate ontology from epistemology:

> Following Engels, I use only the term materialism in this sense, and consider it the sole correct terminology, especially since the term realism has

> been bedraggled by the positivists
> and the other muddleheads who oscillate
> between materialism and idealism".
> (ibid.: 54).

Lenin attempted to refute the idealistic arguments against materialism by taking Berkeley's views as representative of idealism in philosophy. Following Locke, Berkeley posited that ideas or sensations constitute the objects of knowledge: this is all the mind can perceive; matter as such does not exist, rather what does exist is all the sensations connected to our perception of specific qualities of objects. Thus, to be is to be perceived or to perceive. However, things do not disappear when human beings do not perceive them, because they are constantly perceived by the mind of God, and this is what gives them continuity. Since matter is thus a meaningless term, materialism is nonsense.

Lenin enunciated the following arguments against idealism:

1. The world and other people exist independently of us; our images and sensations reflect the outside world; since the image cannot exist without the thing imaged, the external world must exist.

2. The earth once existed without man or any other organic matter. This is the testimony of science. Thus, matter existed prior to man, sensations or selves, and is, thereby, primary.

3. The properties of things do not depend upon our knowledge of them, for instance, coal contained alizarine before we knew it.

4. There is no difference in principle between phenomena or appearances and the Kantian thing-in-itself. There is only a difference between what is already known and what is yet to be known.

5. The physical world existed before society and therefore, it does not require man to organise it. This is an added proof to the primacy of matter over spirit.

In the same way as Engels, Lenin's position has been the object of the same criticisms outlined above, directed against Engels' formulation of the essence of materialism and idealism. Here again, the objection is to Lenin's "confusion" between materialism and realism. Thus, De George (p. 151) states that Lenin's arguments against idealism "even if they were conclusive, they would at best prove epistemological realism" and yet, Lenin is claiming, thereby, to be proving not realism but materialism! (ibid.: 148). We shall not go through the whole arsenal of the Western criticisms of Lenin, as this has already been done when dealing with Engels' view in Ludwig Feuerbach.

Our belief is that it is not strictly a matter of dogmatism or as a consequence of having espoused Engels' views to the letter, as some of Lenin's critics seem to suggest,[6] that Lenin emphasised the realist side of materialism, thereby incorporating the epistemological and ontological dimensions under the same title, idealism and/or materialism.

As we will see in the next chapter, Lenin's definition of materialism and consequently his definition of matter from an epistemological perspective was due to two related factors:

1. To uphold the position of philosophical materialism against those who, due to the new discoveries in physics denied matter any existence.

2. As a corollary to (1), to safeguard on the one hand, the relationship between philosophy and science, and on the other hand, that between philosophy and ideology. His epistemological positioning mainly revolves around this double relation.

We shall not deal with Stalin's treatment of philosophical materialism as outlined in his 1938 essay entitled "Dialectical and Historical Materialism" since it added nothing new to Engels or Lenin's thought simply paraphrasing or quoting his predecessors. The only new element introduced in Stalin's scheme was the treatment of

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[6] Payne (1968: 22) remarks about Lenin's materialism: "Mainly derived from Engels, Lenin's [materialism] follows Engels in ... equating the epistemological problem of the relation of thought to being with the ontological problem of the relation between matter and spirit".

"Marxist dialectical method" before the "Marxist philosophical materialism", a scheme which was abandoned in the Soviet Union after Stalin's death (1953).

3. Contemporary Soviet Philosophical Materialism

In outlining the doctrine of materialism, Soviet philosophers start with the basic question of philosophy invariably relying on Engels' formulation in Ludwig Feuerbach which they never fail to paraphrase, quote, or both. It seems that Soviet philosophers consider this basic question and its materialist answer as an axiom on which is built the fundamental propositions of their system of philosophy namely, the materiality of the objective world, the dialectical character of reality and the reflection theory of knowledge.

It is noteworthy that the basic question of philosophy has not undergone any changes throughout the history of Soviet philosophy to the present. It is dealt with in Soviet writings with a uniformity of style (reminiscent of Engels and Lenin) which leaves an aftertaste of dogmatism. Both Engels and Lenin are acclaimed in this context, the former for having formulated the question and the latter for having shown that in two thousand years of philosophic development the conflict of materialism and idealism had not weakened (Themes in Soviet Marxist Philosophy: Selected Articles From the

'Filosofskaja Enciklopedija', 1960: 3).[7]

Although Soviet writings merely incantate Engels' formulation of the basic question of philosophy, we will quote some of these incantations in order to give the reader an idea of the uniformity of style exhibited in philosophical writings in the U.S.S.R. The statement in The Fundamentals of Marxism-Leninism (1963)[8] runs as follows:

> The question of the relation of the human mind to material being is the fundamental question of all varieties of philosophy including the most recent - which is primary - being or thinking? Philosophers are divided into two great camps according to how they answer the question. Those who consider that the material basis - nature - is primary and regard thought, spirit, as a property of matter, belong to the camp of materialism. Those who maintain that thought, spirit or idea existed before nature and that nature is, in one way or another, the creation of spirit and dependent upon it, comprise the camp of idealism. That is the only philosophical meaning of the terms 'idealism' and 'materialism'. From the most ancient times a fierce, undying struggle has been waged between the supporters of the materialist and idealist views. In fact, the whole history of philosophy is the history of the struggle between these two camps, these two parties in philosophy, materialism and idealism.
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> (p. 23).

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[7] Henceforward referred to as Philosophical Encyclopedia.
[8] Henceforward referred to as Fundamentals (1963).

The above quotation is a typical statement which constitutes a direct paraphrase of Engels and Lenin showing the same refusal to attribute to the terms materialism and idealism a meaning other than the one contained in the formulation of the basic question. In Rozenthal and Judin's Dictionary of Philosophy (1967: 340), this formulation is provided in almost exact terms as the Fundamentals (1963):

> The fundamental question of philosophy as a special science is the relation of thinking to being, consciousness to matter. Every philosophical system gives a concretely elaborated solution of this problem even if the fundamental question is not directly formulated...

Similarly, in the Soviet Encyclopedia (1970, Vol. 8: 191), we read:

> All philosophical doctrines, no matter how diverse, have as their theoretical starting point overtly or in less obvious form, the question of the relationship of consciousness to matter, thought to being. This is the basic or supreme question of any given philosophy, including dialectical materialism.

In Spirkin's 1971 textbook entitled The Basic Principles of Dialectical and Historical Materialism (p. 11), the same formulation of the fundamental question of philosophy is given after which the author declares that "philosophers ... are divided into materialists and idealists depending on the way they solve the fundamental problem of philosophy".

The sources are numerous indeed where the incantation of this issue is made with a striking similarity of style. It is useless to present more quotations on this question. It is enough to mention, and this has been made clear, that the classics of Marxism are paid tribute to, down to the smallest detail and choice of words. It goes without saying that all these statements, being mere repetitions of Engels' statement in Ludwig Feuerbach carry the same equation found in Engels of the epistemological and ontological dimensions. In the Philosophical Encyclopedia (p. 2), Ljaxoveckij and Tjuxtin explain the interconnections between these two dimensions in the formulation of the fundamental question of philosophy: thus, they state that the investigations of the problems which depend on the answer to this question (problems of the material world and of the ideal of truth) lead to distinguishing two sides and three aspects involved in this issue: The first side contains an ontological aspect "where one asks about the emergence of consciousness as a property or function of matter (materialism) or takes consciousness as existing in the form of a spiritual substance (idealism)" (ibid.). The second aspect is the epistemological one where one "sees the results of knowledge in terms of their source, abstracting from the conditions and modes of the material existence of knowledge and its process" (ibid.). The authors claim that these two aspects are involved both in answering the basic question and in dealing with its other side which consists of the purely epistemological question of the relationship of thought to being which develops a doctrine on the paths, methods and modes of knowing the world. The authors add that even here, one can distinguish within the epistemological dimension, the ontological aspect in the form of a concrete, scientific grounding of the intelligibility of the world from the viewpoint of the major properties of matter (ibid.), namely, causality, necessity, the general property of reflection, the psychophysiological properties and mechanisms of sensations and logical knowledge. They conclude that "out of this interconnection of all sides and aspects of the basic question one can draw this conclusion: there is no ontology without epistemology" (ibid.: 3).

It is not our concern here to argue whether, philosophically speaking, this reasoning is sound. The point at issue is that these authors could justify their position by ways other than dogmatism, and that they were able to do so all the while being faithful to the so-called classics. Thus, although we basically agree with Blakeley (1961: 24) when he declares that the statement of the basic question is assumed by Soviet philosophers "at its face value from the classics, in this case from Engels and Lenin" we recognise the existence in Soviet writings of some rare attempts to explain the workings of this question on "rational" grounds.

Rozenthal and Judin (Dictionary of Philosophy: 343) thus, attempt to explain the importance of the fundamental question of philosophy and its implication for different domains of knowledge. Thus, they say that this question is universal because, by virtue of its broadness, it encompasses all other philosophical questions, determines the nature of the world outlook as a whole and the solution of other more specific problems. Although it provides some justification for the importance of the basic issue of philosophy, this statement leaves much to be desired in terms of exactitude. We are not told what these other particular problems are of which the solution is determined by the resolution of the basic question. Instead, we are constantly told that "for philosophy, there has always been just one single basic question. The answer to it is a premise, resulting from a choice in terms of one's world view" (Philosophical Encyclopedia: 2). This world view is either materialism or idealism[9];

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[9] It is worth noting that the Soviets make a distinction between subjective and objective idealism. Objective idealism (Plato, Leibniz, Schelling, Hegel, etc.) consists in the recognition of a spiritual initial cause outside and independent of consciousness. Subjective idealism (Hume and Berkeley) denies the existence of a reality outside human consciousness (Soviet Encyclopedia, 1970, Vol. 10: 117; Fundamentals of Marxist-Leninist Philosophy (1974).

only the former can lead to a correct answer of the basic issue, as it is confirmed by the history of science and by the development of social practice (Soviet Encyclopedia, 1970, Vol. 10: 117). Soviet philosophy considers this question to be fundamental to philosophy, in the same way as questions on the nature of viruses, the essence of anabiosis, and the transmission of genetic information is essential to biology (Philosophical Encyclopedia: 2). Refusing to answer the basic question of philosophy or even to recognise its existence, as some trends in "contemporary bourgeois philosophy" such as neo-thomism, pragmatism and existentialism which classify philosophical doctrines on the basis of a juxtaposition between idealism and realism instead of idealism and materialism, lead to masked idealism. All these "tendencies in contemporary bourgeois philosophy are actually various forms of idealism" (Soviet Encyclopedia, 1970, Vol. 10: 117).

A. The Scientific World Outlook

After stating the philosophical importance of the basic issue of philosophy and asserting that it provides a criterion for differentiating the basic trends in philosophy, Rozenthal and Judin (Dictionary of Philosophy: 343) declare: "that is why a scientific formulation of the fundamental question of philosophy makes it possible consistently to apply the principle of partisanship in philosophy, strictly to delimit materialism and idealism and resolutely to uphold the scientific world outlook of dialectical materialism". Here we touch the essence of the importance attributed to the basic issue of philosophy in Soviet thought. Philosophical in its origin, the importance of the distinction between materialism and idealism becomes ideological in the sense of an established system of views which represent the interests of a certain class. The polemic, partisan edge which is inherent in the basic issue of philosophy speak of the fact that this question constitutes the core of the materialist outlook, which outlook is said to express the interests of the proletariat and the progressive forces in general (ibid.: 483). The materialist world outlook is "scientific", whereas the idealist one is "reactionary", "unscientific", as it defends the interests of the exploiting classes and thus "diverts the workers from the fight for their emancipation" (ibid.). Thus depending on how one answers the basic question of philosophy, one is bound to draw certain definite social conclusions pertaining to people's relationship to reality, the understanding of historical events, moral principles, etc.. If, like idealists, one regards consciousness as primary, then one will look for the source of social evils, which cause great suffering to the workers in class societies, not in the character of man's material life nor in the economic system of society and its class struggle, but in man's consciousness, in his inner wickedness (Fundamentals of Marxist-Leninist Philosophy, 1974: 22).[10]

When applied to the materialist versus idealist world-outlook, the term scientific in Soviet parlance means nothing else than communist ideology. Anything which does not fit this ideology is "unscientific". Idealism is unscientific and the materialist formulation of the answer to the basic question of philosophy is scientific not only by virtue of its being supported by "scientific discoveries" but also by virtue of its fitting into a system of beliefs which serves the interests of the proletariat.[11] The following quote from the Philosophical Encyclopedia (pp. 1-2) can illustrate this point:

> The basic question serves as a methodological ground for the introduction of the principle of partisanship into the consideration of scientific theories, into philosophy and into world view in general .... It [the basic question] is directly or indirectly connected with problems of science ... its answer determines one's view not only on philosophy ... but also on problems of science, politics, ethics, art, education, law, etc...

But the term scientific, as we will see in the next chapter when dealing with the contemporary Soviet theory of matter, is also taken to mean groundedness on scientific data; materialists and idealists are said to have always been "locked in mortal combat" with respect to their attitude towards science. Whereas materialism takes the world as it is and hence bases itself on science, idealism tends to misrepresent the world "and so science is not only unable to lend it support but, on the contrary, demonstrates its total inconsistency" (Spirkin, 1971: 11). Moreover, it frequently distorts and interprets essential findings of science wrongly.

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[10] Henceforward reffered to as Fundamentals (1974).

[11] We do not believe that communism as practiced in the Soviet Union does serve the interests of the proletariat. Here, we are merely disputing the Soviets' claims.

The importance of the basic issue of philosophy for scientific methodology "especially in times of crises of science" is stressed in Soviet writings (Philosophical Encyclopedia: 2). But again this basic issue of philosophy which has the status of a law is of a peculiar breed when it comes to be conceived of as an important method for biology, psychology, neurophysiology, physics, etc. Spirkin (Philosophical Encyclopedia: 33) illustrates its importance for the above mentioned sciences. He says that idealists in biology who are vitalists are unable to provide a scientific explanation of the laws of development of living organisms and thereby to develop effective means of conscious action by man for changing species. Biology became a real science when Darwin destroyed the "idealist divagations on 'life force'" (*ibid*.). Neurophysiology and psychology became genuine sciences when Sechenov and Pavlov "rejected the idealist twaddle about a soul and revealed the material base of psychic phenomena". Thereupon, the author concludes that "the materialist solution to the basic question of philosophy frees science from a number of idealist speculations, from fruitless search for a 'life force', for 'voluntary impulses' in electrons, and so on" (*ibid*.).

B. The Unity of the World

Following Engels whose statement on the unity of the world consisting in its materiality it never fails to quote or to paraphrase (*Fundamentals*, 1974: 96), Soviet philosophy posits that the real material world to which man belongs with his feelings, ideas and sensations, is the only world that really exists. This, science has proved step by step, overthrowing the claim for a spiritual non-material world spread by religion (*ibid*.: 95).

Soviet philosophical writings provide an arsenal of scientific proofs to support this principle of materialist monism. We will mention just a few: Newton's scientific achievements proved that the terrestial and celestial bodies obeyed the same laws, and that the same force of nature causes all bodies to fall to the ground, makes the moon rotate around the Earth, and the planets around the Sun. Thus, "every single body of the infinite Universe" was proved to be linked by material interaction which knows no division into terrestrial and celestial worlds. Similarly, Spectrum analysis also played a role in overthrowing the notions of the existence of two worlds but showing that celestial bodies were mainly composed of the same chemical elements as the Earth (ibid.: 97).

All this adds "further weight to the vital concept of the material unity of the world" (ibid.). Even if scientists were to discover on one of the celestial bodies an element which did not exist in terrestrial conditions, this would by no means overthrow this principle. The point is that all elements, whether they are universally distributed or not, constitute certain forms of matter which possess identical fundamental properties and which obey the same objective natural laws (ibid.).

C. From Materialism to Matter

Since the answer to the basic question is said, in Soviet thought, to determine the character of the philosophical world-outlook, there is a close link between it and the concept of matter: "The philosophical concept of matter can be defined only within the confines of the basic question of philosophy" (Philosophical Encyclopedia: 51). Bazhenov (1976: 6) similarly declares that "matter in general cannot be defined in terms of matter as such; rather, to define it, one inevitably has to discover its relation to consciousness, i.e., to provide a solution to the basic issue of philosophy". The author here is aware of what could be a vicious circle, for he recognises that the concept of matter in dialectical materialism is defined in terms of the basic issue of philosophy, while the formulation of the latter itself requires an available concept of matter. Bazhenov justifies this vicious circle by comparison with similar situations in scientific investigations. Thus, he declares that "in science, too, we define fundamental concepts in terms of appropriate laws" (*ibid*.), and he puts forward as an example, the concept of energy in contemporary physics which presupposes the availability of the law of its conservation, whereas this law in its turn, presupposes an available concept of energy. The author concludes that this kind of "cyclisation" is no longer a vicious circle once one takes into account the progress of cognition in the sense of a first formation of some presupposed notion, defined ostensibly after which a law is formed within the limits of which this so-called notion attains a deeper interpretation worked out from its more accurate definition. "Like so many concepts fundamental to natural sciences and defined in terms of a particular law, the definition of matter constitutes a definition of a philosophical 'law', i.e., the basic issue of philosophy" (*ibid*.).

So far, we have seen that the materialist answer to the basic question of philosophy stands in opposition to the idealist one and that these two positions are claimed to be the only possible ones in reference to how the basic issue is resolved. We have seen that the materialist answer is supposed to be the only true one and that its claim of being linked with sciences enlarges the gap between itself and idealism.

But this is not all, if materialism is differentiated from idealism on the basis of the answer it gives to the basic issue of philosophy, the former is further differentiated from metaphysical and mechanistic materialism on the account it gives of the concept of matter itself. We mentioned that the latter is closely tied up with the fundamental issue of philosophy which in turn, is closely linked to scientific methods. It is a cherished thesis amongst Soviets philosophers that the concept of matter proper to dialectical materialism differs from all pre-Marxist attempts at defining a substratum of all things. We will treat this aspect among other things, in the next chapter when dealing with the Soviet concept of matter, along with a delineation of the extent to which contemporary Soviet philosophy drew from the classics when elaborating this concept, and in particular from Lenin.

CHAPTER II

THE DIALECTICAL MATERIALIST CONCEPT OF MATTER

Introduction

In dealing with the category of matter, Soviet philosophy considers it to be the alpha and omega of historical and dialectical materialism and the cornerstone of all true philosophy (Dictionary of Philosophy; Fundamentals of Marxist-Leninist Philosophy, 1974; Soviet Encyclopedia, 1970-1974). In fact, matter is viewed as one category of the materialist dialectic "which does not itself need grounding and which serves to ground all other categories" (Spirkin, Philosophical Encyclopedia: 24). Moreover, it is a concept of such a broadness that it embraces all objects and phenomena in the world (Spirkin, 1971: 24). Hence the insistence in Soviet writings on the concept of matter and its crucial importance for their philosophy which, in Spirkin's words, "begins with the recognition of the primacy of matter and the derived character of consciousness" (Philosophical Encyclopedia: 15).

If Engels is considered to have been the first to formulate "the most basic question of all philosophy", it is to Lenin that Soviet thought gives credit for his elaboration of the concept of matter. This latter is said to "sum up the materialist solutions to the basic question of philosophy and the dialectical understanding of the development of matter and consciousness" (Fundamentals, 1963: 30).

In our presentation of the concept of matter of dialectical materialism, we will start off by dealing with Lenin's contributions on the question in his Materialism and Empirio-Criticism in the form of an epistemological definition of matter meant to safeguard the relationship between science, philosophy and ideology. We will then present the contemporary Soviet treatment of the concept of matter, one which has basically remained unchanged since Engels' time. Furthermore the basic attributes and modes of matter, such as infiniteness, motion, time and space will be dealt with. At the end of the chapter we will provide some critical concluding remarks pertaining to the concept of matter in Soviet thought.

1. The Leninist Concept of Matter

A. Lenin and the "Crisis in Physics"

Lenin contributed to the elaboration of the concept of matter in his Materialism and Empirio-Criticism. That he is the first amongst the classics to have added something new to this concept is partly due to historical circumstances related to scientific discoveries at the closing years of the 19th century. At the time of Marx and Engels, the notion of matter did not present any controversial aspects. It was a straight-forward concept congruent with the state of science which then viewed the atom as being the ultimate, indivisible and unchanging building block of nature. When, however, around the turn of the century, it was established on the evidence provided by the discovery of radio-activity in certain elements, that the atom is divisible into further particles of which the electron was the first to be discovered, the concept of matter became problematic for philosophical materialism. Some philosophers and scientists began to talk about the "dematerialisation of the atom", and the "disappearance of matter" (Lenin, Materialism and Empirio-Criticism: 267). Furthermore, if the electron can be transformed into energy via the "radiative annihilation" phenomenon, then one could further argue for the dissolution of matter. This crisis in physics was said to yield to the "ruin" of old principles (ibid.: 261). Some scientists, as for example Henri Poincaré were stating that everything which is not thought is sheer nothingness (ibid.); others, among which many Russian Machists sought refuge in empirio-criticism (ibid.).

This crisis was not restricted to physics, but was also threatening to philosophical materialism, for if matter could not be viewed as the only concrete constituent of nature, its primacy over spirit would no longer hold true. It is precisely philosophical materialism, in its dialectical form that Lenin sought to uphold when tackling the crisis in physics. For him, the claim for the disappearance of matter presented no threat whatsoever to dialectical materialism, but for the metaphysical one, a distinction the Machists failed to recognise (ibid.: 269).[1] Lenin argued in the following fashion: Dialectical materialism regards as relative any new scientific theory pertaining to the structure of matter and its properties. Insisting on the absence of absolute boundaries within nature, and the possibility of the transformation of matter from one state to another, dialectical materialism does not seek unchanging, ultimate entities in nature. Metaphysical and mechanical materialism, however, do seek such entities, a fact which led their proponents to deny matter once what was thought to be its ultimate constituent, namely, the atom, proved to be divisible. Ignorance of dialectic led this type of thinkers (as Lenin refers to Valentinov and Bogdanov) to regard "substance" as immutable, a view which dialectical materialism has always rejected: "From Engels' point of view, the only immutability is the reflection by the human mind (when there is a human mind) of an external world existing and developing independently of the mind" (ibid.: 271).

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[1] "The error of Machism in general, as of the Machian new physics, is that it ignores ... the distinction between metaphysical and dialectical materialism" (Lenin, Materialism and Empirico-Criticism: 269).

This is the only substance, so Lenin claims, that Marx and Engels accepted. Apart from this, the "substance" of things is relative. It only reflects the degree of depth of man's knowledge of nature.[2] While "yesterday", this knowledge was confined to the atom, "today", it has progressed and reached the electron, but this by no means implies that the electron is the final discovery:

> Dialectical materialism insists on the temporary, relative, approximate character of all these *milestones* in the knowledge of nature gained by the progressing science of man. The electron is as *inexhaustible* as the atom, nature is infinite, but it infinitely exists.
> (ibid.: 271).

This statement contains the crucial element of Lenin's elaboration of the concept of matter: For, if nature in its infiniteness could never cease to be known, this presupposes on the one hand that it exists and always will outside the knower and independent of his will, and that, on the other hand, this knower's knowledge, namely, "the progressing science of man" will always remain historically relative and changeable.

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[2] Lenin leaves unanswered the question as to whether matter is substance or not. In his "Summary of the Science of logic of Hegel", he notes that: "On the one hand, one must push knowledge of matter up to knowledge of substance in order to find the causes of phenomena. On the other hand, the real knowledge of the cause is the penetration of that knowledge which proceeds from the surface of phenomena to substance" (Philosophical Notebooks: 159). Here substance is equated with essence. But Lenin does not have a clear answer because he does not try to define the notion of substance.

In order not to confuse the absolute (nature) with its relative, specific manifestations, Lenin established a definition of matter of such a broadness that it could transcend what science has, is, and will discover on the structure of matter. This definition which cannot be affected by the historically changing views of science belongs to philosophy, for the latter is different from science and its categories distinct from scientific categories. Thus, Lenin stressed that "matter is a philosophical category" (ibid.: 127), and that "the sole property of matter with whose recognition philosophical materialism is bound up is the property of being an objective reality" (ibid.: 269).

Being thus defined in such epistemological terms from the point of view of its existence and objectivity, matter can never be confused with the scientific notions of matter, for these apply to specific objects of individual sciences whose role is to describe all the other characteristics of matter in the course of their endless approach to absolute truth. Whereas the content of these scientific notions evolve with each deepening of scientific knowledge, the meaning of the philosophical concept of matter will not change, for it does not apply to any object of science, but rather, it affirms the objectivity of all scientific knowledge of an object. Thus this category (matter) acquires the quality of an absolute truth, and Lenin can proclaim with confidence that:

> Matter is disappearing means that the limit within which we have hitherto known matter is vanishing, and that our knowledge is penetrating deeper; properties of matter are likewise disappearing which formerly seemed absolute,immutable and primary impenetrability, inertia, mass, etc..) and which are now revealed to be relative and characteristic only of certain states of matter.
> (*ibid*.: 269).

Through the distinction he made between the general (philosophical) and the particular (scientific) concept of matter, Lenin thought to have reestablished physics in its proper state, all the while saveguarding materialism. The scientific "crisis" of physics was for him only a philosophical crisis within which those scientists who proclaimed the disappearance of matter wished instead to proclaim that of materialism. But the latter, even though opposed in a radical way to idealism is not altered or destroyed by advances of science, for its central characterisation is, at the same title as idealism, an epistemological characterisation of a different nature than the scientific:

> Materialism and idealism differ in their respective answer to the question of

> the source of our knowledge (and of the 'mental' in general) to the *physical* world; while the question of the structure of atoms and electrons, is a question that concerns only this 'physical world'.
> (ibid.: 268).

Thus, we can see that Lenin opposed materialism and idealism on the basis of the epistemological question of the source of our knowledge, namely the question pertaining to the relation between the knower and the known.

B. Lenin in Face of his Critics

Some Western critics, recognising the conflation in Lenin's thought of the ontological and the epistemological, both in defining matter (as the property of existing outside our minds) and in distinguishing, on the basis of this definition, materialism from idealism, have concluded that Lenin's materialism, in the same way as that of Engels is nothing but naive realism. Thus, Wetter (1962: 21) proclaims that Lenin defined matter "solely in terms of its part in the act of cognition, i.e., from an epistemological angle". Moreover, the same author (1959: 118) affirms that "Lenin conceives materialism to mean virtually the same thing as realism". Bochenski (1963: 68) is of the same mind when he says that Lenin's "materialism is above all realistic", and Payne (1968: 22), to confirm that "Lenin's materialism is above all realistic". Furthermore, De George (1966:

149) states that "Lenin uses the term 'materialism' to identify what he would call a consistent realistic position. But he does not justify this reduction of realism to materialism, and the result is a confusion of ontological and epistemological categories". In his 1959 work, Wetter (pp. 287-288) argues that the philosophical definition of matter formulated by Lenin "is in itself so broad as to be capable of embracing all being whatsoever and taken literally could even include a spiritual being; for the latter, too is an 'objective reality'". However, the same author corrects himself in his 1962 work (p. 33) and recognises that Lenin's definition by no means allows the inclusion of a spiritual being, because, in addition to defining matter as existing as an objective reality independent of our consciousness, Lenin restricted this so-called objective world to a material one, by further specifying that the philosophical category of matter is one which denotes "the objective reality, which is given to man by his sensations, and which is copied, photographed, and reflected by our sensations, while existing independently of them" (Lenin, Materialism and Empirio -Criticism: 127). Similarly, Lenin further confirms the material nature of the epistemologically defined world in stating that "matter is that which, acting upon our sense-organs, produces sensation; matter is the objective reality given

to us in sensation" (ibid.: 145).

Wetter (1959: 288) claims that the above quotation converts the realist definition Lenin gave to matter as existing outside our mind, to a materialist one which "confines the 'notion' of reality to that which affects our sense-organs". This opinion seems to be a uniform one amongst Lenin's critics who, not only point out the equation Lenin made between ontology and epistemology, but also agree to say that what they call Lenin's realism, namely the definition of matter from the point of view of its role in the cognitive sphere, does not really say anything about the structure of matter itself: "When one tells us that the totality of the objectively real - the totality of that which exists - is material, this tells us nothing about matter or about the essence of material reality" (Bonjour, 1967: 79). Similarly, Wetter (1962: 21) declares that "Lenin's definition tells us nothing of what matter is in itself, as seen from the ontological point of view".

The criticisms of the above mentioned authors is justified to a certain extent, for Lenin did make an epistemological statement of something which would normally be considered from an ontological dimension. One may contest, however, as Fleischer does (1962a: 13) that Lenin's above mentioned propositions expressed in his Materialism and Empirio-Criticism do not constitute the entirety of Lenin's concept of matter. It is true that the term "only property" does suggest that it was meant to provide a complete definition of matter. However, one must not forget that in the same book, Lenin presented further ontological specifications of his definition of matter. His comments on the attributes of matter, namely, on motion, space and time (ibid.: 176-189), as well as his postulation pertaining to the reflective property of matter, all suggest that Lenin, in the same way as Engels, tried to a certain extent to elaborate the concept of matter from an ontological perspective. Fleischer (1962a: 13) suggests that Lenin's characterisation of matter as objective reality independent from consciousness, and his claim that this constitutes the only basic qualification of matter, may be regarded as an overstatement made in the heat of the discussion. We do not agree with Fleischer's last remark: the point at issue, one which we want to raise is that Lenin was indeed fully aware of the usage he was making of the concept of matter. Whenever he attempted to define matter ontologically, he immediately reverted to the epistemological thesis of its objectivity with no further qualification of its structure. We believe that it is not strictly a matter of historical circumstances as Bochenski (1963) suggests, which made Lenin use the term materialism in the same way as Engels did when he defined the "basic problem of all philosophy" (see previous chapter). Defining matter epistemologically as Lenin did does not preclude the elaboration of matter from an ontological viewpoint. That Lenin's endeavour was indeed intentional is made clear by some statements in which Lenin, arguing against Pearson, Bogdanov and the Russian Machists stressed that these philosophers' "denial of matter is the old answer to epistemological problems, which consist in denying the existence of an external, objective source of our sensations" (Lenin, Materialism and Empirico-Criticism: 145). For Lenin, the recognition of nature's existence outside the mind and perception of man distinguished dialectical materialism from relativist agnosticism and idealism (ibid.: 271), a position which had already been upheld by Engels. But this is not the end of the story. Defending his position against Bogdanov who was criticising the materialists on the account that in their attempt to define matter, they merely repeated the proposition that being (nature, matter) is primary, and spirit, consciousness, secondary (ibid.: 146), Lenin argued that it is not possible to give a definition of such concepts, for in their generality, they preclude any attempt at defining them in terms other than those very terms Bogdanov criticised:

> The slightest reflection could have
> shown these people that it is
> impossible, in the very nature of

> the case, to give any definition of these two ultimate concepts of epistemology save one that indicates which of them is taken as primary. What is meant by giving a 'definition'? It means essentially to bring a given concept within a more comprehensive concept. The question then is, are there more comprehensive concepts, with which the theory of knowledge could operate, than those of being and thinking, matter and sensation, physical and mental? No. These are the ultimate concepts, the most comprehensive concepts which epistemology has in point of fact so far not surpassed.
>
> (ibid.: 145).

The above quotation shows that like Engels, Lenin conceived of matter and opposite concepts such as "mind", and "mental" as categories of such a broadness that they constitute ultimate notions which cannot be encompassed by any other generic terms other than the ones used to oppose them as to which is primary and which is secondary. Hence Lenin's epistemological definition of the term matter, one which is still held in contemporary Soviet philosophy, and hence its "confusion" with the ontological dimension. When Lenin declares against Valentinov that "the disappearance of matter *of which he speaks* has no relation to the epistemological distinction between materialism and idealism" (ibid.: 267), Lenin is consciously divorcing and simultaneously conflating the epistemological question which opposes materialism and idealism, namely whether the latter is the only real source of knowledge, with the ontological one of the structure of matter itself. To say that Lenin is simultaneously divorcing and conflating these two planes of reality means that although he established an opposition pertinent to an epistemological dimension, which because of its generality also encompasses the ontological dimension, he declared in the same breath that the real ontological concept of matter, pertinent to the structure of matter and to its formation is one which belongs to scientific knowledge. We already noted the distinction Lenin made between the scientific and the philosophical concept of matter. In fact, as we mentioned, the latter concept was elaborated by him and born within the context of the "crisis of physics" and the challenge it raised in face of philosophical materialism. It is thus, in this very context that the Leninist concept of matter should be understood, and dealt with.

C. Lenin and the Relationship Between Philosophy, Science and Ideology

The differentiation of the philosophical from the scientific concept of matter would have as a corollary, and this, Louis Althusser (1971: 49-50) very pertinently noticed, the differentiation of every scientific concept from the philosophical concept of matter. For those materialists who apply philosophical categories to the objects of specific sciences are committing an error of identity, for such concepts as matter/mind, spirit/nature cannot be considered as belonging to the sciences. Lenin was cautious, however, lest one thinks that by opposing matter to consciousness, the latter would be taken as immaterial, to point out that:

> The antithesis of matter and mind has absolute significance only within the bounds of a very limited field, in this case only within the bounds of the fundamental epistemological problem of what is to be regarded as primary and what as secondary. Beyond these bounds, the relative character of this antithesis is indubitable. (Materialism and Empirio—Criticism: 147).

At this point of our account, let us pause to summarise the relevant points made so far: Lenin declared the opposition between matter and spirit to belong to epistemology. On the basis of the order taken or its inversion, the opposition will lead to materialism or idealism respectively: matter/mind or mind/matter. Lenin moreover declared the antithesis between these concepts not to hold outside philosophy, i.e., not to hold within the problematic of the object of science. He also said that the ultimate concepts of materialism and idealism cannot be refuted or proven, for they cannot be the object of a knowledge in the same way as scientific knowledge, for the latter can prove and specify the properties of its objects.

We can now turn our attention to the relationship Lenin established between materialist philosophy and the sciences. Louis Althusser (1971: 53) has delineated two senses in which this relationship is to be understood: First, in the sense of the link which ties philosophy, in general, to science, namely, the Engelian thesis on how the great scientific revolutions result in major reorganisations in philosophy. Like Engels, Lenin was to defend the thesis on the changes philosophical materialism undergoes under the effect of major scientific discoveries. In Materialism and Empirio-Criticism, Lenin quoted Engels' statement that "with each epoch making discovery even in the sphere of natural science..., materialism has to change its form" (p. 259).

The second sense in which Lenin conceived of the link between philosophy and science resides in the tie between precisely materialist philosophy and the special sciences: The former is concerned with what happens in scientific practice, but in a way particular to it, for most specialists in the sciences, Lenin pointed out, adopt a "spontaneously" materialist attitude with regard to the belief in the objective existence of the subject matter of their science and the objective character of the knowledge thus produced through scientific practice: "Volkman is a physicist who writes fairly extensively on epistemological questions, and who tends, as do the vast majority of scientists, to materialism" (ibid.: 167). Lenin recognised this spontaneous materialist tendency as highly important for Marxist materialist philosophy, for both practically and theoretically, this tendency confirms and expresses the materialist thesis of objectivity.

We must now turn to the way Lenin defined and conceived of philosophical practice if we are to grasp the nature of the link between philosophy and science. Althusser (1971: 61) suggests, and we agree with him, that "Lenin defines the ultimate essence of philosophical practice as an intervention in the theoretical domain".

Before analysing the nature of this intervention, it would be necessary to remark in an explicit fashion that like Engels, Lenin saw the whole history of philosophy as the history of the struggle between two opposing tendencies: Idealism and materialism. Thus, after handling the arguments of his opponents, Lenin declared that "throughout the preceding exposition, in connection with every problem of epistemological question raised by the new physics, we traced the struggle between *materialism* and *idealism*" (Materialism and Empirio-Criticism: 350). The passages are numerous where Lenin in his Materialism and Empirio-Criticism saw, behind all the sophistry, distinctions, and groundless arguments of empirio-criticism the "struggle of parties in philosophy" (ibid.: 374).

Now, to the role of philosophical practice. As Lenin (ibid.: 134) put it, it is:

> sufficiently 'indefinite' *to prevent science from becoming a dogma in the bad sense of the term*, from becoming something dead, frozen, ossified; but at the same time it is sufficiently 'definite' to enable us to *draw a dividing line in the most emphatic and irrevocable manner* between ourselves and fideism and agnocticism, between ourselves and philosophical idealism and the sophistry of the followers of Hume and Kant.

And:

> Of course, we must not forget that the criterion of practice can never, in the nature of things, either confirm or refute any human idea completely. This criterion too is sufficiently 'indefinite' not to allow human knowledge to become 'absolute', but at the same time it is sufficiently definite to wage a ruthless fight on all varieties of idealism and agnocticism.
>
> (ibid.: 141).

Thus, we can see that Lenin's definition of the nature of philosophical practice, as Althusser (1971: 61) has remarked takes a double form: On the one hand, it is theoretical in the sense of its formulation of definite categories; on the other hand, this intervention takes a practical form related to the function of these categories. This function resides in the task of philosophical practice, as defined by Lenin, to draw a dividing line, inside the theoretical domain, between the scientific and the ideological. Thus, this dividing line will help on the one hand scientific practice in its drawing of theoretical conclusions, and on the other hand, it will defend this very practice from the dangers of "false" ideological tendencies, namely idealism, agnocticism, fideism, metaphysics, etc. And here, we can see that the same Lenin who declared it impossible to effect a revolutionary movement without a revolutionary theory behind it, insisted on ideology as a necessary requisite for the production of scientific knowledge. This knowledge is protected by the dividing line Marxist philosophy draws in order to preserve scientific practice from the assaults of idealist philosophy, the opposing tendency, because the scientific cannot claim independence from the ideological. Throughout his work, Lenin stressed this point in one form or the other:

> That science is non-partisan in the struggle of materialism against idealism and religion is a favourite idea not only of Mach but of all modern bourgeois professors, who are, as Dietzgen justly expresses it, 'graduated flunkeys who stupefy the people by their twisted idealism'. (Materialism and Empirio-Criticism: 137).

Since it is the task of materialist philosophy to draw a dividing line by means of which it wards off the ideological views of idealist philosophies, its main enemy, it has to ensure that this task can be successful under any historical condition related to the development of the sciences. This guarantee of success resides in the privileged relationship philosophy enjoys vis-à-vis specific sciences. We have mentioned above that any discoveries made in these fields yield to a reorganisation of the content of materialist philosophy, and that the scientist, by the very nature of his practice is regarded by Lenin to be "spontaneously materialist".

It follows that in the endeavour consisting of drawing the dividing line between materialism and idealism, Marxist philosophy will rely on scientific knowledge, as the latter exhibits, both in theory and in practice, the same materialist beliefs of existence and objectivity, materialist philosophy adheres to. But in order for this so-called reorganisation of the content of materialist philosophy with every new scientific advances to take place within the boundaries of philosophical materialism and not outside it, there has to exist a tight link between the philosophical and the ideological on the one hand, and between the scientific and the ideological, on the other hand. Once such a link is established, scientific theory and practice can serve the same ideological function of preventing any deviation from philosophical materialism. The following quotation can illustrate this point:

> Once you deny objective reality, given us in sensation, you have already lost everyone of your weapons against fideism, for you have slipped into agnosticism, or

> subjectivism, and this is all
> fideism wants. If the perceptual
> world is matter in motion, matter can
> and must be infinitely studied in the
> infinitely complex and detailed
> manifestations and ramifications
> of this motion, the motion of this
> matter.
>
> (ibid.: 359-360).

Here Lenin is establishing two points: First, that the denial of objective reality "given us in sensation" (philosophical theory) namely, material reality opens the field to fideism; second, that once the objective world is considered to consist of matter in motion, it can be studied as such (scientific practice). And here, once again, the implied meaning of Lenin's statement is to be interpreted within the link which unites philosophy with science. Lenin viewed it as a necessity to hold a materialist line of thinking in order to fight against enemies of materialism. This line of thinking, a philosophical one, constitutes one type of answer to the question of the objectivity of the world, for once the latter is denied, it means that the universe can no longer be claimed to be ruled by specific deterministic laws, a thesis which entails the further belief in a supernatural entity, for instance, God, to account for the existence of these laws. The materialist outlook runs counter to this view, however, because science, for a materialist is capable of explaining physical phenomena. Through its task of investigation of these phenomena as manifested in the objective world, science will necessarily corroborate the materialist view of objectivity: For the question of the determinism of the basic physical laws, one that characterises scientific theory, is, as Freistadt (1953: 233) puts it, a counterpart to the more fundamental philosophical question concerning the objective character of the outside, physical world. Neither question, however, can be studied and solved by philosophical or theoretical argumentation alone. All the while philosophical materialism has to take for granted, as a basic axiom, the existence of fundamental laws, it recognises the impossibility of formulating these laws, for the philosophical treatment of the universe is a wholistic one, since the latter is the most and only fundamental entity which includes everything there is and there ever will be. Physics, on the contrary, as a field of science, cannot deal with the universe as a whole because the very nature of scientific practice requires a division into subject and object, both restricted and relatively isolated entities. Therefore, while the essence of philosophy as a discipline, is to hold a basic belief in a fundamental law, which, because of its universality cannot be encompassed or exhausted by any single statement or groups of statement, that of physics as a natural science will be to give an ever closer approximation to this law, which diversifies into other sub-laws.

Cast in the same mold of belief in the outside, objective, physical world and beholding this same universe as a subject matter of inquiry, albeit at different levels of specificity, Marxist-Leninist philosophy and the sciences thus claim to be able to ward off any sort of idealist tendencies (Fundamentals, 1963, 1974; Dictionary of Philosophy, 1967), for their relationship ties them on the triple level of ideology, epistemology and ontology.

Lenin's failure, or to use a more appropriate term, his refusal to define matter other than in epistemological terms of a broadness which has repelled his critics, is, as we showed, an intentional endeavour on his part. At the very outset of the chapter entitled "The Recent Revolution in Natural Science,and Philosophical Idealism", Lenin warned his readers that "it is far from our intention to deal with special physical theories. What interests us exclusively is the epistemological conclusions that follow from certain definite propositions and widely known discoveries" (Materialism and Empirio-Criticism: 260).

The interpretation of these conclusions within the philosophical definition of matter was meant indeed to preserve the linkage between materialist philosophy and the special sciences. And although some critics have remarked that Lenin's distaste for an ontological philosophy was not so much a revision of Engels' materialism but rather, an emphasis on the positivist elements encountered in his predecessor (Joravsky, 1961: 21), the fact is that Lenin achieved the purpose he set himself. For, by defining matter epistemologically as the objective reality given to man and reflected by his sensations while existing independently of them, and by further declaring that "materialism in general recognises objectively real being (matter) as independent of consciousness, sensation, experience, etc., of humanity" (Materialism and Empirio-Criticism: 340), Lenin was moved by the necessity of showing that the objective line of thinking proper to philosophical materialism is also a characteristic of the objectivity of scientific practice since the subject matter of the latter is the very world materialism believes to be objective and independent of man. To have given an ontological interpretation of matter by the examination of physical theories as such would have been beside the point and contradictory to his refusal to see matter as an unchanging "substance" which exists in an invariable state throughout nature. However, when in his Materialism and Empirio-Criticism, Lenin happened to give an ontological interpretation of his philosophy, for there are at least two instances where this is encountered, one of which being his assertion of the inexhaustibility of the electron, he was mainly concerned with refuting the anti-materialist arguments based upon the new developments in physics, an endeavour he saw as essential if philosophy and science were to be proven to co-exist on a complementary plane. In this view, Lenin criticised Plekhanov as a philosopher for not having established the connection between the new discoveries in physics and the interpretations the Machians and other enemies of Marxism gave them:

> The connection between the new physics, or rather a definite school of the new physics, and Machism and other varieties of modern idealist philosophy is beyond doubt. To analyse Machism and at the same time to ignore this connection - as Plekhanov does - is to scoff at the spirit of dialectical materialism, i.e., to sacrifice the method of Engels to the letter of Engels. Engels says explicitely that 'with each epoch-making discovery even in the sphere of natural science (not to speak of the history of mankind), materialism has to change its form' ... Hence, a revision of the 'form' of Engels' materialism, a revision of his natural philosophical propositions is not only 'revisionism', in the accepted meaning of the term, but, on the contrary, is demanded by Marxism.
>
> (_ibid_.: 259).

And although chapter 5 of _Materialism and Empirio-Criticism_, where Lenin deals with the "New Revolution in Natural Science" did by no means constitute an explicit revision of Engels, but rather an explicit refutal of those who were talking about the disappearance of matter, it succeeded, by this very endeavour, to outline the ideological link which ties philosophy to science, if ideological, in a narrow sense, is taken to mean a repellance of those notions beheld by tendencies opposite to those of materialism. For, it is always important to bear in mind that when Lenin gave an universal definition of the term matter, and opposed his philosophy to that of idealism, giving it the name of materialism, rather than that of realism, even though it is epistemologically grounded, it is because his was a fighting philosophy, and for this fight to remain valid as long as capitalism would survive in the history of society, the differentiation between these two "opposing lines", namely materialism and idealism, has to be an epistemological differentiation, for the latter, when brought to the high degree of generality Lenin gave to it in defining the philosophical concept of matter, can encompass the ontological without losing its right to existence, whereas the reverse is not true: If the ontological is to be treated as an elaboration of the characteristics of elements of nature, to take as an example the fundamental one materialism adheres to, namely matter, it could stand by itself without further qualifications of an epistemological nature, because the world exists in spite of any knowing consciousness.

Thus, after giving his famous definition of matter, Lenin can declare, against his enemies (and by repeating

Engels' thesis) the universality of this concept:

> To say that such a concept can be antiquated is *childish talk*, a senseless repetition of the arguments of *fashionable reactionary* philosophy. Could the struggle between the tendencies or lines of Plato and Democritus in philosophy, the struggle between the adherents of supersensible knowledge and its adversaries have become antiquated during the two thousand years of development of philosophy.
> (ibid.: 127).

Lenin's views were inherited by Soviet thought and remain, to this day, basically unchanged. In Part Two of the present work we will be able to study some of the concrete manifestations of the link between ideology, science and philosophy which Lenin established more than any other of the classics, and which is clearly apparent in the history of Soviet psychology. For the moment, let us turn our attention to a brief presentation of the contemporary Soviet concept of matter, one which heavily relies on Engels and Lenin's formulations.

2. The Theory of Matter in Contemporary Soviet Thought

In presenting the theory of matter, Soviet writings refer mostly to Lenin rather than to Engels, invariably starting off with the former's philosophical definition of matter, either as a direct quotation from Materialism and Empirio-Criticism, or as a paraphrase of this definition (Dictionary of Philosophy: 280; Spirkin, 1971:

24; Fundamentals, 1974: 75; Soviet Encyclopedia, 1974, Vol. 15: 596). In the Soviet Encyclopedia (1974, Vol. 15: 563) for instance, we find the following statement: "Of great importance was Lenin's elaboration of the basic question of philosophy and his definition of the concept of matter", after which, the latter is quoted. In the 1974 Fundamentals of Marxist-Leninist Philosophy (p. 75), Lenin's definition of matter is said to be closely connected with the materialist solution to the basic question of philosophy since it shows matter to be the objective source of our knowledge and as something that can be known. And if Soviet philosophers unanimously agree that "the Marxist-Leninist concept of matter is organically related to the basic question of philosophy" (Soviet Encyclopedia, 1974, Vol. 15: 596), they no less agree to recall that in the course of his endeavour, Lenin "used the most recent results of science to support the materialist answer to the basic question of philosophy" (ibid.: 1974, Vol. 15: 563). The occurrences are numerous indeed where Lenin's definition of matter is said to have given materialism a new form corresponding to the new, higher level attained in the development of sciences (Dictionary of Philosophy: 275; Soviet Encyclopedia: ibid.). It would be rather tedious to give an index of all the instances where the first Bolshevik leader is acclaimed. We refer the reader who wishes to pursue this issue to some of the basic Soviet writings in philosophy available in English, namely, the Fundamentals (1963, 1974), the Soviet Encyclopedia, and The Dictionary of Philosophy.

In presenting the theory of matter, Soviet writings proceed in a two-fold fashion: On the one hand, they show the ways in which the concept of matter proper to dialectical materialism opposes previous materialist schools, and on the other hand, they analyse the content of the concept of matter itself.

A. Dialectical and Pre-Marxist Materialist Definition of Matter

Contemporary Soviet philosophy wishes to avoid at all costs being identified with pre-Marxist materialist schools. And although it considers itself the heir of those philosophies which, since the time of the Greeks held matter to be the only reality, it detects major qualitative differences between its own doctrine and that of all previous materialist trends, including the "vulgar materialism" of the Encyclopedia and its 19th century continuation (Soviet Encyclopedia).

Of course, Soviet orthodoxy recognises and appreciates the fact that these materialist trends have taught that the totality of reality is material. However, the reproaches it makes to all of them lie in what Soviet thought considers to be the failure of the pre-Marxist schools to understand the thesis on the material nature of the real. This failure is formulated in all Soviet writings on the question. In the Soviet Encyclopedia, (1974, Vol. 15: 596), for instance, we read: "In pre-Marxist philosophy and natural science, matter as a philosophical category was often identified with specific types of matter". For Thales, it was water; it was air for Anaximander, and fire for Heraclitus (Philosophical Encyclopedia: 48). But the ancient materialists were not alone in their flaws. Towards the mechanistic materialism of the 17th century and that of the 18th and 19th century, the reproaches are the same: Descartes and Newton, for example, identified matter with extension, and more often than not, the indivisible atoms were thought of by vulgar materialists, to be the bearer of the primary properties of matter (ibid.: 49).

Bazhenov (1975: 3) formulates the nature of this position as follows: To define matter through its properties posits that matter is all that and only that which have properties P_1, P_2, P_3 .... P_n, where n may be large but necessarily finite. To uncover these properties was the basic objective of natural science as well as the science-based materialist philosophy. But merely having recognised the possibility of defining matter in this way leads one to view it as some "proto-matter possessed of some finite set of properties which can be discovered by the human mind where upon the latter reaches its absolute end" (ibid.).

As dialectical materialism sees it, matter cannot be reduced to any definite forms, whether material particles, sensorily perceived bodies, etc.; (Fundamentals, 1974: 75) rather, matter is all the infinite multiplicity of different objects and systems that exist and move in space and time, that possess an inexhaustible diversity of qualities (ibid.).

In the Soviet Encyclopedia (1974, Vol. 15: 597) the thought is expressed that one of the consequences of the reduction of matter as objective reality to particular states and properties of matter, revealed itself in the history of science reaching a crisis point at the end of the 19th century. This crisis was occasioned by advances in physics that proved the atom to be divisible. Bazhenov (p. 3) declares that Lenin's interference in the form of his Materialism and Empirio-Criticism gave a "new dialectico-materialist concept of matter" (ibid.), one which was to become classical in Marxist philosophy (Fundamentals, 1963: 27).

On Substance

This new definition is said to reject the notion, proper to metaphysical and mechanical materialism, of nature as something immutable and unchangeable, eternally repeating the same cycles (ibid.: 27). The Soviet view holds that if matter is so conceived as the absolute primitive construction material of the universe, this presupposes that it is limited and that, qualitatively speaking, it has a finite character (Bazhenov: 2). Contemporary Soviet dialectical materialism denies the existence of primary and immutable substance (Fundamentals, 1974: 76), and "acknowledges the substantiality of matter only in the sense that matter (and not consciousness, not something supernatural) is the only universal basis for the various properties of phenomena, and determines the unity of the world around us" (ibid.). This view is in opposition to pre-Marxist philosophy which viewed substance as the immutable primary principle which underlies all existing things while remaining intact through all transformations (Dictionary of Philosophy: 439). Here it is assumed that Marxist philosophy alone is capable of giving a dynamic concept of substance, and that all other philosophies are obliged to conceive of it in terms of an immutable, "ultimate building block".

The rationale behind a cautious use of the term substance as applied to matter is inherited from Lenin, and is aimed in Soviet orthodoxy at opposing any form of "masked idealism". In fact, Soviet philosophy believes that substantialism leads to a metaphysical and anti-dialectical view of the world, or even worse, to idealism. Substantialism is a form of idealism, because the "thing-in-itself" of Kant appears as soon as one begins to talk of substance. Moreover, if the analysis of matter led to the discovery of a substratum, this would mean that matter is not infinite since the mind would eventually reach a basis for things. But an ultimate basis for things is irreconcilable with Lenin's thesis on the "infinity of matter in depth".

Thus, the relative acceptance of the term substance in contemporary Soviet thought, one which recognises the substantiality of matter only as it relates to the materialist solution of the basic question of philosophy (Soviet Encyclopedia, 1974, Vol. 15: 597), means that every material objective has an inexhaustible diversity of structural connections and is capable of changes and transformations into qualitatively different forms of matter. Thus, matter comes to be seen as existing "only in the infinite variety of concrete forms of structural organisations" (Dictionary of Philosophy: 280). It is in this sense only that Soviet dialectical materialism concedes at using the concept of substance which thus becomes equivalent, in Meliukhin's words "to the concept of the material substratum of various processes and phenomena" (Soviet Encyclopedia, 1974, Vol. 15: 597) and to the principle of the material unity of the world (ibid.).

This topic in Soviet thought is one which could be termed adventurous, because Lenin left unanswered the question of whether matter is substance or not, occasionally equating substance with essence, thereby increasing the ambiguity of contemporary Soviet heritage on the problem. The notion of substantiality had to be developed in such a way as to remain faithful to Lenin's thesis on the "infinity of matter in depth" (Materialism and Empirio-Criticism: 271) which in itself suggests that there is no ultimate substantial basis in nature. In fact, to espouse the notion of substantiality would ultimately mean that matter is not infinite since the mind would eventually discover a basis for things, as it probes deeper into essence. As we already mentioned, Soviet thought tries to escape this contradiction by restricting the notion of substantiality to the concrete forms of structural organisations of matter (an ontological thesis) on the one hand, and by simultaneously adopting Lenin's definition of matter which all the while being solely epistemological, nevertheless encompasses the ontological dimension as well.

Thus, it seems that Bazhenov's attempt to recognise in the context of dialectical materialism the validity of a relative proto-matter falls into this effort of adaptation of Lenin's view. Bazhenov (p. 5) thus distinguishes between general and relative proto-matter.

The former, characteristic of metaphysical materialism, is identifiable with "matter as such". Needless to say, it is "unequivocally" rejected by dialectical materialism. As to the latter, it "liberates the concept of proto-matter from a metaphysical interpretation" (ibid.) and consists in the recognition of the various structural levels of matter of which none is definite or final. Bazhenov (p. 5) defines relative proto-matter as follows: it is "the knowledge attained at any given stage of cognition, concerning the level of the structural organisation of matter given as objective reality in our sensation". It is in this very sense that Soviets view the notion of the inexhaustibility of matter, and Bezhenov declares that this notion makes no sense, on principle, unless it is seen from the epistemological perspective of the relation between matter and consciousness.

Bazhenov's concept of relative proto-matter is highly reminiscent of Lenin's statement on the meaning of the disappearance of matter advocated by opponents of materialism and his belief that the "essence" of things or "substance" is relative, and that it expresses only the level of man's knowledge at any given stage of history. The Soviet Encyclopedia (1974, Vol. 15: 597) quotes Lenin's statement in the context of the concept of substance just outlined, a fact which is highly relevant if we are to realise that here, the epistemological dimension is predominant and takes over any attempts at viewing matter or substance either strictly ontologically, i.e., separate from epistemology, or as a pure, absolute abstraction: "Among the universal properties of matter are its inability to be created or destroyed, its eternal existence in time and infiniteness in space, and the inexhaustibility of its structure" (ibid.: 598).

In the Philosophical Encyclopedia (p. 50-51), Bibler emphasises the dangers of holding the meaning of substance in an absolute sense. We have already mentioned that Soviet dialectical materialism claims that the concept of matter is not definable outside the boundaries of the basic question of philosophy and its answer. We can now gain a deeper insight into this fact: To recognise a universal source of things, i.e., a substance, is just one aspect of defining matter. Bibler (ibid.) argues that the danger of absolutising this aspect lies in the consequent identification of the abstract concept of matter with the material actuality thereof. In order to avoid such an identification, the objectively dialectical and the theoretically cognitive should be united. Precisely the Leninist concept of matter as a philosophical category which denotes the objective reality given to man by his sensations and which is copied, photographed and reflected to these sensations while existing independently of them, is said to achieve such a unity. The argument runs as follows: Matter is opposed to something relatively non-material, namely consciousness, a fact which characterises the matter-mind relation as one which remains intact throughout all the transformations of matter and its inherent properties. This, by the same token, guarantees the link between epistemology and ontology (Bazhenov: 6) in the sense outlined above in dealing with the Leninist concept of matter: "In defining matter through its relation with consciousness, the inseparability of the epistemological and ontological aspects of Marxist philosophy receives special prominence" (ibid.: 7), an inseparability, which, as we saw above, is a precious thesis, as its implications go beyond its strict field into that of the relationship dialectical materialism holds with the special sciences.

By this endeavour, dialectical materialism claim that it has overcome the difficulties connected with previous materialist schools which approached matter as "something extraneous to consciousness and opposed to the spiritual" (ibid.: 3). This is especially the case with the supporters of the extension theory who were trying to describe matter strictly ontologically. In so doing, claims Bazhenov (ibid.), "they neglect the fact that even including within the concept of matter categorical characteristics, yet in any case this does not make the latter purely ontological", for these categories are considered in dialectical materialism not so much as characteristics of reality, but as stages of cognition. Moreover, the wholly proper and legitimate opposition between subject and object, knowledge and being, loses its significance outside the theory of knowledge. If one was to oppose matter with spirit, this would amount to a betrayal of materialist monism and a reversion to a dualistic position (ibid.). The only thing which exists is matter and its appearances. Man, the knower is also himself one of the various manifestations of matter.

B. The Double Concept of Matter

We have seen, when dealing with the Leninist concept of matter, how Lenin, attempting to resolve the crisis in philosophical materialism elicited by the development of atomic physics, formulated a philosophical concept of matter from an epistemological standpoint. This new definition, as we have shown, was meant to elucidate the nature of materialism on the one hand, and to safeguard the relationship between dialectical materialism and the sciences on the other. Lenin thus pointed out that the question of the structure of matter and of atoms is not one of philosophy but of science, while from a philosophical point of view, the only necessary property of matter is that of being objective reality.

From the idea that the concept of matter should not be identified with what one specific area of scientific knowledge teaches on the structure and properties of matter, some Soviet phi-osophers have come to overemphasise the distinction between the philosophical category of matter and the scientific one. The first edition of the Soviet Encyclopedia (1949-1957) presented this distinction as a necessary presupposition of he who wants to follow a truly materialist line of philosophy (Bonjour: 81). Thus, this view dominated Soviet thought from 1925 to 1951 and was generally and rightly attributed to Lenin. However, in 1951, Voprosy Filosofii (Problems of Philosophy) published a number of articles in which some Soviet authors were hotly attacked for making this distinction. In the same year, the Bulletin of the Academy of Sciences of the U.S.S.R. also brought out an article along these lines by I.V. Kuznetsov. In it, the responsibility for introducing the distinction between the philosophical and the scientific concept of matter was attributed to the "menshevising idealists"[3] (Wetter, 1959: 288-289). Thus, the doctrine of the double concept of matter has been done away with since 1951 and became the model of menshevising heresy (usually associated with Trotskysm in Soviet thought). In fact, the Soviets

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3. See Part Two, Chapter II.

discovered in 1950 that this dichotomy of matter made it possible for Soviet scientists to adopt Kantian, agnostic or idealist positions in science, a fact which is incompatible with the all-pervasive character dialectical materialism claims for itself.

The accepted thesis holds that the category of matter is a philosophical category and that there is only one concept of matter, namely the philosophical. The latter is so broad as to cover all types of matter, known and unknown, everything which has been, is, or has yet to be discovered in nature (Fundamentals, 1974: 75). Scientific concepts, on the other hand, reflect individual aspects and properties of objective reality. Hence, there cannot be different concepts of matter but only different concepts of the various forms and types of matter. And, though the double concept is done away with, there is still a distinction, in contemporary Soviet writings, between the philosophical category of matter and the scientific representations of the latter: "At each stage of cognition it would have been incorrect to identify the philosophical conception of matter as objective reality with the specific concepts of its structure and forms" (Soviet Encyclopedia, 1974, Vol. 15: 597).

Granted that one should not identify them, a new difficulty arises: There is the risk of having an abstract philosophical category of matter in general and another one of the different forms of materical beings, thereby falling into the error of substantialism which Soviet philosophy vehemently rejects. This difficulty is overcome by two claims in apparent contradiction. The first one refers to the belief that matter does not exist outside its specific forms as we saw, and the second one states that matter is more than the sum of its specific form as we will see in the next chapter when dealing with the materialist dialectic.

C. Attributes and Modes of Matter

a. The Infinity and Eternity of Matter

Soviet philosophy has inherited from Engels a wealth of statements on the attributes and properties of matter. These statements take the form of ontological characterisations of the meaning of the materiality of matter without explicit reference to the epistemological aspect of its relation to consciousness prominent in Lenin's philosophical concept of matter and Engels' basic question of philosophy.

The most basic attributes of matter are that it is eternal, uncreated and indestructible. This triple qualification constitutes an axiom in dialectical materialism and is often corroborated in Soviet writings, following Engels' example, by scientific proofs, such as for instance, the law of conservation and transformation of energy. The latter states that in all conversions of qualitatively different forms of motion into one another, the quantity of the energy remains conserved. In the Fundamentals (1963: 31), it is said that "matter is uncreatable and indestructible. It is eternally changing, but not a single particle can be reduced to nothingness by any physical, chemical or other processes". The authors of this book state the conversion of photons into positrons and electrons and the reverse (conversion from a solid body to light) as a proof witness of the conservation of energy, and an added proof of the thesis on the material unity of the world (*ibid*.: 31).

Similarly, in the *Soviet Encyclopedia* (1974, Vol. 15: 598), we read: "Among the universal properties of matter are its inability to be created or destroyed, its eternal existence in time and infiniteness in space, and the inexhaustibility of its structure".

b. Motion

Another property of matter of extreme importance in dialectical materialism is that it is essentially in motion: "Motion is the universal attribute, the mode of existence of matter. Nowhere in the world can there be matter without motion, just as there can be no motion without matter" (*Fundamentals*, 1974: 80). This, of course is a direct paraphrase of Engels' statement in *Anti-*

Duhring (p. 86) and after him Lenin's declaration that "whether we say that motion is a form of existence of matter, or that the world is material motes, makes no difference whatever" (Materialism and Empirio-Criticism: 279). Paraphrasing or quoting Engels and/or Lenin, the Soviets express themselves on this matter in a uniform fashion (ibid.; Spirkin, 1971: 30).

The thesis of the inseparability of matter and motion is of extreme importance to dialectical materialism because it shows the motion of matter to be essentially "self-movement". If this unity is broken, as it might be by thinking of matter without motion or motion without a material substratum, there is a possibility, so Soviets claim, of falling into idealism. For, if matter is without motion, it would normally be in a state of rest, one which would require an external force to bring it into motion (Newton). This must eventually lead to an assumption of a First Mover, as Descartes concluded. It was Engels who first postulated the unity of matter and motion in his polemic against Duhring: "How we are to get from absolute immobility to motion without an impulse from outside, that is, without God?" (Anti-Duhring: 86). Following Engels, Lenin reacted against Bogdanov and others who envisioned motion without matter, for, in Lenin's view, motion divorced from matter allows the danger of lapsing into idealism: "What is essential is that the attempt to *think* of motion without matter smuggles in *thought* divorced from matter - and that is philosophical idealism" (Materialism and Empirio-Criticism: 277).

In the Dictionary of Philosophy (p. 281), Rozenthal and Judin thus, oppose the dialectical materialist notion of matter from any previous materialism, by following the same reasoning put forth by Engels and Lenin. They state that the dialectical materialist understanding of matter differs from the metaphysical one, in that according to the former matter is viewed not only as independent of man's consciousness, "but also inseparably connected with motion, time and space, as capable of self-development, as infinite both quantitatively and qualitatively in all scales of its existence".

Motion as Change

When dialectical materialism refers to motion as an attribute of matter, it is nevertheless careful, lest motion should be taken in this context in a purely mechanical sense, as was done by mechanical materialism, in that it recognised only unchangeable material particles moving in space, to stress that "motion is any change and phenomena, in the world, in matter. It is change in general" (Spirkin, 1971: 29). This view goes back to Engels when he declared in his Dialectics of Nature

(p. 51) that motion is not merely change in place, in fields higher than mechanics, it is also change in quality.

Following Engels (Anti-Dühring: 20, 86, 124, 168), Soviet dialectical materialism lists the following forms of motion as examples: Motion in cosmic space, mechanical forms of motion of smaller masses on a single celestial body, physical forms of motion, electric tension, chemical decomposition and combination, organic life, thought and human society (Spirkin, 1971: 29; Fundamentals, 1963: 32; Fundamentals, 1974: 82). Human society is considered to be the highest stage of development of matter on Earth. The Social motions intrinsic in it include all kinds of manifestations of purposeful human activity, all social changes and types of interaction between the various social systems, from the individual to the state and society in general; "All processes of the reflection of reality in ideas, concepts and theories are also a manifestation of social forms of motion" (Fundamentals, 1974: 83).

Thus, motion as conceived by dialectical materialism is not a circular one from which nothing but one which constitutes an upward movement which leads to evolution and history. As the philosophical elaboration of this concept of motion will require that the dialectic plays a crucial role in this process, it will be dealt with in the next chapter. It is sufficient to say for the moment that Engels and his disciples in Soviet dialectical materialism go out of their way to emphasise that the higher forms of motion cannot be simply reduced to those of lower order (Fundamentals, 1963: 33; Fundamentals, 1974: 85). This, they say, differentiates their materialism from previous ones:

> The old, pre-Marxian mechanistic materialists believed that all life, in nature and human society, could be reduced to the mechanical movement of bodies and particles in space. Marxist philosophical materialism, with its broad view of motion as change in general, overcomes the narrow and oversimplified mechanistic conception of the motion of matter.
> (Fundamentals, 1963: 33).

Motion and Rest

The last we will deal with very briefly in this sub-section on motion is the concept of rest. Does the thesis of the inseparability of matter and motion conflict with the fact that the world contains bodies at rest? Dialectical materialism does not deny the presence of rest, but sees it to be relative. One may speak of rest if one conceives of the body in isolation from the whole web of things it is part of. But there is no possibility of finding a single body at rest, which could not be incorporated into one moving system or another (ibid.: 32). Engels already expressed this idea in Dialectics of

Nature. He considered rest as a moment of motion, conditioned by the relative stability of some one or other of its appearance. As such, it possesses indeed, an essential importance for matter in motion: In fact, for Engels, "the possibility of bodies being at relative rest is the essential condition for the differentiation of matter and hence for life" (Dialectics of Nature: 326). Hence motion and rest, in the doctrine of dialectical materialism constitute a dialectical unity, a unity of opposites. The opposition is only relative, however, for rest itself is relative, limited in time, and motion alone is eternal (Soviet Encyclopedia, 1970, Vol. 7: 596). The exact nature of the contradictory character of movement is explained in dialectical materialism's thesis on the struggle and unity of opposites and will be elaborated in the next chapter.

c. Space and Time

Motion occurs in space and time and is inseparable from them (ibid.; Fundamentals, 1974: 85). In determining the nature of space and time, dialectical materialism wishes to dissociate itself from Newton's excessive realism which led him to believe that they are realities independent of matter, and from Kant's subjectivism which was expressed in the view that these categories are just forms of human intuition which could not exist independently of human consciousness (Fundamentals, 1963: 33; Spirkin, 1971: 32).

In defining space and time, thereby, Soviet dialectical materialism do so in a way intended to bring out the objective character of these notions as well as their inseparable connection with matter: "Space and time are interconnected as modes of the existence of the objective world and are inseparable from matter in motion" (Fundamentals, 1963: 34). Einstein's theory of relativity is often taken as a scientific proof of this double thesis of objectivity and inseparability from matter. The Soviets thus agree to say that this theory refuted the view previously prevailing in physics that space is independent of matter, and that time does not depend on the motion of matter (ibid.: 33).

Spirkin (1971: 31) offers the typical way of argumentation found in Soviet writings on the topic: There is nothing in the world which is not spatially extended, from the planets to the human brain, to the atomic nucleus. On the other hand, there is no space which is not occupied by matter (ibid.; Fundamentals, 1963: 33). Because of the principle of materialist monism, namely that everything in the world is matter, "it follows that *matter cannot exist in any other way than in space*". It is on this basis that space is defined as "a form of the existence of matter" (Spirkin, 1971: 31).

Likewise, time is defined as "an objectively real form of the existence of matter" which "characterises the sequence of the occurrence of material processes, the separateness of the various stages of these processes, their duration and their development" (Fundamentals, 1974: 85-86). Nothing can be located out of time, nor is there any time with nothing in it (Spirkin, 1971: 31). Moreover, space cannot exist without time as time does not exist without space. And, "since matter exists in space and time, space and time are inseparable from matter as from each other" (ibid.: 32). Needless to say, this principle was already laid by Engels in his polemic against Dühring and taken up by Lenin in Materialism and Empirio-Criticism (p. 177): "There is nothing in the world but matter in motion, and matter in motion cannot move otherwise than in space and time". This statement of Lenin is often quoted, paraphrased, or both, in Soviet writings which insist on the objective existence of these categories (Fundamentals, 1974: 85-86; Spirkin, 1971: 32). They often come back to the philosophical conception of matter as leading to this view on objectivity. Thus, Bibler (Philosophical Encyclopedia: 53) asserts that "from the definition of matter as primary in reference to consciousness the assertion of the objective character of space, time, movement follows". He adds that the Leninist thesis pertaining to the objective reality which acts on us, and is copied and reflected in our sensations "already contains reference to the objective character of movement ... and time" (ibid.). Bazhenov (p. 4) expresses the same idea in his article entitled "Matter and Motion": "Atoms, electrons and all other forms of existence of matter represent objective reality which exists apart from, and independently of, consciousness".

The notion of the absolute and relative character of space and time is often mentioned. Space and time are considered as universal forms of existence of matter, in the sense that the latter, as we saw, cannot exist outside them. However, their properties change and their relation depend on the speed of motion of matter, in accordance with the distribution of material masses. In this sense, they are considered relative (Fundamentals, 1963: 34). This does not mean that they are not eternal or infinite. On the contrary dialectical materialism postulates that space and time are eternal inasmuch as matter itself exists eternally. Moreover, they are boundless and infinite (Fundamentals, 1974: 86-87). For instance, modern astronomical apparatuses allow one to survey distances that light which travels at 300,000 kilometres per second, covers in ten billion years or even more (ibid.: 87). But these distances are not the limit: "The infinity of space is the infinity of the volume of the whole countless totality of material bodies of the Universe" (ibid.).

By the infinity and boundlessness of time is meant that no matter how much time may pass up to a certain moment, time will always go on, never reaching a limit. No matter how long ago a certain event occurred, it must have been preceded by a countless number of other events which, taken together, have an infinite duration (ibid.).

d. Consciousness as a Property of Highly Organised Matter

Motion, time and space are not the only attributes of matter. Dialectical materialism views consciousness as "a function of the human brain, the essence of which lies in the reflection of reality" (*Fundamentals*, 1974: 102). However, dialectical materialism is careful to differentiate its own position on the question, from that of previous materialist schools which regarded all matter to be animate (*ibid.*). For dialectical materialism, consciousness is not a property of any matter, but of highly organised matter, namely, the brain (*ibid.*). "The dialectical materialist concept of consciousness is based on the principle of reflection, that is, the mental reproduction of the object in the brain of the individual in the form of sensations, perceptions, representations and concepts" (*ibid.*: 102-103). This conception of consciousness will further occupy us in chapter IV (Part One) when dealing with the Leninist theory of reflection.

Conclusion and Critique

A. The Leninist Concept of Matter

In dealing with the Leninist concept of matter, we presented the Western critics' remarks pertaining to the epistemological definition of a concept which ought to be treated from an ontological viewpoint. But this is not the extent of Western criticisms of the Leninist and contemporary Soviet definition of matter. Byrne (1977: 3) denies the view that "what is given to man by his sensation" is identical with "objective reality existing independently of human consciousness". He postulates that developments in modern physics, for instance, as exemplified by the concern with invariants in relativity physics and quantum mechanics, rest upon the realisation that the search for an objective reality cannot be exclusively met with within the restrictions of one's perceptual viewpoint; "In other words, the sensed-as-sensed necessarily depends precisely upon the spatio-temporal orientation of some particular human consciousness" (*ibid*.). Thus, Byrne asserts that contemporary scientific theory recognises that the sensible consequences alone do not constitute the grasp of objective reality. In order for this grasp to be achieved, one needs something else as well which would go under the name of invariant or co-variant.

Wetter (1962: 32) puts forth a criticism of a more general nature; he states that the Leninist definition of matter is tautological "It violates one of the basic rules of any valid definition, viz., that the *definiens* should not be contained in the *definiendum*" (ibid.). If one asks, Wetter quite rightly argues, what consciousness is, according to dialectical materialism, one is told that it is a "product, function, and property of matter", which means that "matter is that which exists independently of a product or property of matter" (ibid.).

Although Wetter's criticism is to the point, one can sense that he is defending his own religious beliefs pertaining to the divine nature of human consciousness. We shall not ponder on whether or not the dialectical materialist definition of matter is valid or, for that matter, true. Our aim is rather to understand the logic, the "raison-d'être" behind such a definition of matter in Soviet thought. This logic, we have already interpreted, when dealing with the Leninist concept of matter at the outset of this chapter, from the point of view of the relationship between philosophy, science and ideology. The so-called "corrections" which the double concept of matter has undergone in Soviet thought since 1951 can be interpreted in the same light.

B. The Double Concept of Matter, Science and Ideology

In order to catch sight of the deeper background which accounts for the sudden rectification of a hitherto acknowledged concept of dialectical materialism we have to consider the following points: To hold the existence of two concepts of matter, one philosophical and one scientific could lead to the acceptance of a double truth, one scientific and another philosophical. Dialectical materialism claims that matter in motion, space and time are objectively real and infinite, and that there are objective laws in nature which are reflected in human thought. Is one to conclude that these claims are true only of philosophical matter or are they true of scientific matter as well? If the distinction between the two notions of matter is allowed, then the answer becomes rather ambiguous. But what is more serious, if the philosophical concept of matter is held to be distinct from the scientific, the dialectical link between science and philosophy is broken. Thus, Kuznetsov (1952) decalres: "The notion of a dual concept of matter implies a divorcement of dialectical materialism from the living process of inquiry into nature" (Quoted by Wetter, 1959: 290).

It is philosophy which can provide a correct definition of matter, while every new scientific discovery represents a way of concretising the philosophical concept of matter, since it uncovers new modes and forms of activity as well as new sources of sensations (Philosophical Encyclopedia: 52). In the Dictionary of Philosophy (p. 281), it is said that "the philosophical understanding of matter as objective reality is concretised and complemented by the view of natural science on its structure and properties". But this is not all; if philosophy is enriched in its category of matter by scientific discoveries, the sciences in their turn, could not wholly renounce philosophy, or else, by so doing, the opposition between Soviet and bourgeois science, the former developing on the basis of Marxist-Leninist philosophy, and the latter tied to reactionary idealism, would be blurred. This is the second point we want to raise in the context of the present discussion, one which could be termed nodal, as it brings us to the same crucial considerations which occupied us when we dealt with Lenin's concept of matter. These considerations have to do with the role of philosophical practice which consists in drawing, within the theoretical domain (scientific theory) a dividing line between Marxism and opposing ideologies. The role of this line, as we have already said to two-fold: On the one hand it assists scientific practice, and on the other hand, it defends it against the dangers of idealism and agnosticism.

The attribution of the double concept of matter to the "menshevising idealists" is no more than an ideological move. Lenin did say in so many words that the scientific concept was different from the philosophical concept of matter. And if what was considered to saveguard the connection between science and philosophy up to 1950 was suddenly seen as a threat to it, it was because the link between science and ideology was weakened. In fact, those who emphasised the distinction between the two concepts of matter not only adopted a non-partisan attitude in science, but also run the risk of adopting Kantian, agnostic or idealist positions in their scientific views. The "soi -disant" correction the Soviets made to the concept of matter was thus, not one of content, but mainly an ideological move. As far as content is concerned, it was just a matter of slight terminological changes which left the Leninist thesis intact. This change involved the substitution of the expression "forms and structure of matter" to that of "scientific concept of matter". The changes brought about in 1951 are in essence due, as we already said, to ideological premises whereby those who emphasised the dichotomy of matter, by the same token, tended to separate philosophy from science, a fact which, in its turn, weakens the partisan role of philosophy. In the words of Kuznetsov (1951), "the notion of a dual concept of matter leads to a dissolution of the creative force and guiding role of Marxist-Leninist philosophy in gaining knowledge of the world" (Quoted by Wetter, 1959: 290). Moreover, Kuznetsov accuses the adherents of this dual concept of contravening Lenin's clear and explicit recommendations by espousing a "neutral" and "non-party" line for science in the struggle against idealism (ibid.).

We can now start to understand why the Soviets do not refer so much to Engels as they do to Lenin when outlining the content of their concept of matter. The fact is that despite his mention of tendency struggles in philosophy, it is not Engels, but Lenin who established the relation between philosophy, science and ideology, as Althusser (1971: 65) pertinently remarked. Because the concept of matter is the touchstone of dialectical materialism, the ideological needs of partisanship would be all the more prominent in it. Thus we can see that the concern of keeping a dialectical relation between science and philosophy, i.e., between ontology and epistemology, goes beyond itself into the realm of ideology, for the latter arms science with weapons against the adversaries of communism.

C. The Attributes and Modes of Matter

With regard to the problem of the different types of motion, as Wetter (1962: 34) rightly remarked, human consciousness and society is ranked along with mechanical, physical, and chemical forms of motion, to exemplify the highest forms of motion in matter. This in itself is a form of positivism, for, although dialectical materialism claims to recognise the qualitative differences between the higher and the lower, neither in its concept of matter nor in that of the dialectic,as we will see in chapter III (Part One), does it provide a concept of change involving the notion of praxis.

The notions of infinity, eternity and boundlessness in relation to motion, space and time in their inseparable existence with matter are rather vague. Consequently, the infinite is confused with the indefinite, and eternity is thought of temporally, as time which lasts. On the other hand, Soviet philosophy gives its own version of a number of scientific laws to prove the correctness of its views. Thus, as we saw, the law of conservation of energy is put forward as a proof of the eternity and the uncreatability of matter. Some Western critics, to mention only Bonjour (p. 97) have pointed out that this endeavour makes Soviet philosophy akin to scientism. This philosophy more often than not oversteps the boundaries between different disciplines, and easily passes from the level of science to that of philosophy, and from the level of scientific epistemology to that of philosophical epistemology. In this context, Bonjour (ibid.) quotes Merleau-Ponty's statement in his Adventures of the Dialectic pertaining to this Soviet philosophical procedure:

> Leninist orthodoxy is...this thought without honesty which one never completely grasps; this unstable mixture of Hegelianism and scientism which enables orthodoxy to reject in the name of 'philosophic' principles all that the human sciences have tried to say since Engels, and, nonetheless, to answer 'scientific socialism' when one talks about Philosophy.

This criticism with which we fully agree will become more justified as we proceed with our exposition of Soviet dialectical materialism. It will also further become more apparent when we deal with Soviet psychology in its successive attempts to build itself on the principles of dialectical materialism.

CHAPTER III

THE MATERIALIST DIALECTIC

Introduction

In the foregoing chapter, we dealt with the dialectical materialist concept of matter. We have seen that dialectical materialism considers matter to be endowed with the attribute of motion; furthermore, the term motion designates, not merely change of position, but development and change in general. Hence, motion gives rise to essentially new qualitative changes in matter. This view is set in opposition to the vulgar or mechanist materialism, and characterises the dialectical aspect of Marxist-Leninist philosophy. Being the "science of the most general laws governing the development of nature, society and thought" (Engels, Anti Dühring). The dialectic is supposed to provide the explanation for the emergence of new and ever higher qualities, in that it shows how qualitative changes occur in the course of the evolution of matter. Marx had applied the principle of contradiction to the sphere of social development as a principle of development: The class-struggle between the bourgeoisie and the proletariat will inevitably lead to the overthrow of capitalism and will serve the cause of social progress. Engels thereupon undertook to show that this Marxian law operates, not only in the sphere of social theory, but in all of reality, nature and thought alike; hence the fusion of materialism and dialectic, a fusion which brought about "a genuinely scientific theory of nature, society and a method for knowing reality and changing it in a revolutionary way" (Soviet Encyclopedia, 1974, Vol. 15: 563). Moreover, due to the unity of the objective and subjective dialectic, the dialectic is at once logic and theory of knowledge as well, a thesis which further substantiates the fusion between dialectic and materialism in Marxist-Leninist philosophy.[1]

But one must not forget that Marx and Engels' creation of the materialist dialectic was intended to provide a "scientific world outlook" which represents the interests of the proletariat. The fact that the principles of the dialectic apply not only to nature but also to society shapes the principle of partisanship in philosophy: Any world outlook which does not conform to socialist ideology, is hostile to the causes of socialism and promotes bourgeois ideology. Because reality itself, whether nature, society or thought, is itself material and dialectical, materialism and dialectic form an integrated doctrine: "Marxist method is materialist as well as dialectical, and Marxist theory is dialectical as well as materialist" (Fundamentals, 1974: 57). The extension of materialism and dialectics to the understanding of history, and the consequent creation of historical materialism, constitutes the core of the revolutionary aspect of Marxism-Leninism (ibid.).

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[1] See next Chapter.

The views of Soviet philosophy pertaining to the dialectics are governed at the present time by Engels' mode of treatment which summed up the core of the materialist dialectic in the law of the transformation of quantity into quality, the law of the unity and struggle of opposites, and the law of the negation of the negation, all taken from Hegel's "idealistic dialectic". Moreover, he considered the general connection and interdependence between phenomena to be the essence of the dialectic. Engels' views were adopted by Soviet thought up to 1938, when Stalin's essay on "Dialectical and Historical Materialism" made its appearance. This essay arranged the matter in an altogether different fashion, deleting the law of the negation of the negation, and in lieu of Engels' three laws, enunciating four, so-called "principal features of the Marxist dialectical method". After Stalin's death, Soviet philosophy reverted back to Engels' mode of presentation. Moreover, with the abandonment of Stalin's scheme which treated the theory of dialectic before philosophical materialism, Soviet writers resumed the initial "Engelian" procedure of starting their presentation of dialectical materialism with the "great basic question of all philosophy".

In our exposition of the materialist dialectic, we will follow the contemporary Soviet treatment of the subject. Moreover, we will present Lenin's classification of the 16 elements of the dialectic, as well as Stalin's first two "principal features of the Marxist dialectical method", since they are also still adhered to in present day Soviet philosophy. Before we proceed to our presentation, we will outline the meaning of the concept of dialectic in Soviet writings, and we will briefly deal with the concept of law, and that of category. Moreover, we will present the essence of the laws of social theory in Marxism-Leninism. Keeping in mind that the laws of the dialectic apply to all spheres of reality, we will show the way in which the three laws of the dialectic are applied to social theory in Soviet writings. At the end of the chapter, we will provide some critical comments pertaining to the Soviet materialist dialectic.

1. The Definition and Meaning of Dialectic in Soviet Usage

In philosophical writings, the word "dialectic" has four different meanings. First of all it refers to the art of discussion and, in Plato, to metaphysics as well. With Aristotle it acquired the meaning of logic in general. Finally, Hegel, who is considered in Soviet writings as representing "the highest summit of Western philosophy" (Philosophical Encyclopedia: 85) saw in dialectic the totality of laws which determine the evolution of being. It is often encountered in Soviet writings on the history of dialectic and dialectical logic that Hegel's views are "the summit in the development of pre-Marxian dialectics" (Dictionary of Philosophy: 121). The justification of this privileged position is often carried in reference to Engels' statement in Anti-Dühring (p. 37) whereby he declared that with Hegel, for the first time, the world is seen in constant motion and development (Dictionary of Philosophy: 121). Hegel is given credit for having conceived of a logic (the dialectical one) in which all the categories "flow continuously and dynamically from a creative interpenetration" (Philosophical Encyclopedia: 85) and where these categories, even though only products of the spirit, are objective in that they represent all of nature, society and thought (ibid.). Nevertheless, "a truly scientific appreciation of dialectic" is attributed to Marx and Engels. They are said to have discarded the idealist content of Hegel's philosophy by interpreting dialectic as the materialist understanding of history. Engels is said to have interpreted this notion as the general nature of things, and Lenin, as knowledge.

It is worth noting that the adjective "dialectical" has no precise, clear-cut connotations in Soviet usage. In dealing with the concept of motion as an attribute of matter, we referred to the characteristic apparent in Soviet writings to oppose the dialectical materialist to the vulgar materialist concept of movement. In so doing, Soviet writers insist that the course of motion in matter leads to qualitative changes therein. In this respect, development is defined as the process of self-motion from the simple to the complex, the lower to the higher, a process which leads to the emergence of the new (Dictionary of Philosophy: 119). The theoretical justification for the emergence of ever higher qualities is taken to be provided by the dialectic in that it shows how qualitative changes are brought about in matter in the course of evolution. In this view, dialectic is defined as "the most profound, comprehensive and fruitful theory of motion and development" (Fundamentals, 1963: 59), a development which occurs according to the three laws of the dialectic: "The development of inorganic systems, the living world, human society, and cognition is governed by the general laws of dialectic" (Dictionary of Philosophy: 119). Moreover, Engels' definition of the dialectic in his Anti-Dühring is still followed. We find it in the Dictionary of Philosophy (120), the Fundamentals, 1963: 87; 1974: 126).

In keeping with the above definition of the dialectic, one which is broad in the extreme, since it constitutes a doctrine "of the most general principles of emergence and development" (Soviet Encyclopedia, 1970, Vol. 8: 185), it seems that the term dialectical can mean "movement according to the three laws of the dialectic". But this is not the end of the matter: In distinguishing its philosophy from the previous materialist schools, Soviet thought declares that the founders of Marxism, proceeding from the principle of the material unity of the world saw in dialectic as well as a theory of the general laws of development of all reality, a theory of universal connections between phenomena (Fundamentals, 1963: 59; Soviet Encyclopedia, 1970, Vol. 8: 186). Thus, it seems that "dialectical" comes to be synonymous with the notion of interrelation, dynamism (motion being more than mechanical displacement) and could even imply an historical approach to reality in contrast to a lifeless, static view which is designated in Soviet writings as metaphysical in character. In opposing the dialectical to the metaphysical approach, the authors of the Fundamentals (1963: 60) say that "the metaphysician, for example ... discerns the relative stability, the definiteness of a thing, but does not notice its change and development. He ... does not understand that reality itself is in a state of development [i.e. motion]". The story is different with Marxist philosophy which, according to the Soviet Encyclopedia, (1970, Vol. 7: 597) is called dialectical precisely because it acknowledges the universal interrelationship between things and phenomena and emphasises the importance of motion and development of the material world and of cognition of it.

This contrast between dialectical and metaphysical thinking which Soviet writings never fail to establish does not seem to be a new phenomenon. Rather, the grounds for such an endeavour were already set by Engels, Lenin and Stalin. In a 1938 textbook we find the following statement which strikes us by its resemblance with more recent statements on the topic:

> Dialectical thinking is the opposite of metaphysics, which regards things and phenomena, not in their unity and interrelationship, but each separate from the other, ... not in motion, but in a state of rest, frozen, unchanging and lifeless. (Adoratsky: 30).

This is the style of much of Engels, Lenin, and Stalin's writings, a style contemporary Soviet philosophy has adopted once and for all.

The notion of interconnection, interdependence and interconnection, to which the meaning of the concept of dialectic is ascribed, also comes from the Marxist classics; it will shortly occupy us further when dealing with Lenin and Stalin's treatment of the dialectic. The fact is that, despite the multifold meaning of the word, the essence of the materialist dialectic is definitely found in the three laws of the dialectic which are said to "express the universal forms of development of the material world (nature and society) and of cognition of it" (Soviet Encyclopedia, 1970, Vol. 8: 190).

2. The Concept of Law

The Fundamentals of Marxist-Leninist Philosophy (1974: 128) define a law as an "expression of necessity", i.e., a "connection that determines the character of development in certain conditions". Such is, for instance, the connection between the economic system of society (base) and forms of social consciousness (superstructure). Representing a definite stable connection between phenomena, a law expresses a relationship in which a change in some phenomena elicits a change in other phenomena (ibid.). Thus, a law has a universal form, and constitutes "one of the stages of the cognition by man of unity and connection, of the reciprocal dependence and totality of the world process" (Lenin, Philosophical Notebooks: 150-151, quoted in ibid.).

There exists three main groups of laws:

1. Particular laws which express the connection between specific properties of objects or between

processes within the framework of a specific form of motion. As such, these laws have a limited sphere of application (ibid.).

2. General laws applying to large groups of objects and phenomena. They express the connections between general (but not universal) properties of a large number of qualitatively different objects (for instance, the laws of the conservation of mass, energy, charge and quantity in physics).

3. General or universal laws which express the universal dialectical relations between all existing phenomena and their properties, the tendencies of matter to change (ibid.: 129-130).[2] The laws of the dialectic belong here. They operate everywhere "embracing all aspects of reality" (ibid.: 130), including society and thought alike.

3. The Concept of Category

Categories are defined as the most general, fundamental concepts of philosophy (Soviet Encyclopedia, 1973, Vol. 11: 191; Fundamentals, 1974: 60) which reflect essential, universal properties and relations of the phenomena of reality and cognition (ibid.). They originated and developed as the result of generalisations from the historical development of social practice: "By making use of all the achievements of world philosophical thought and the specialised sciences, Marxism has evolved categories on a dialectical materialist basis" (ibid.: Fundamentals). They are a summing up of the knowledge of the whole previous history of mankind. Categories have the following characteristics:

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[2] We will see in the next chapter, when dealing with logic as method that methods obey the same classification as that of laws.

1. They are nodal points, stages, moments in the penetration of thought into the essence of things.

2. They are an ideal analog of the material world, reflecting the general properties and connections of the latter. Thus, they acquire a methodological value (ibid.: 162).

3. They differ from the categories of specific sciences in that the latter can be applied only to certain spheres of thinking, while philosophical categories, permeate all fields of knowledge.

4. They are enriched by scientific discoveries, and at the same time no specialised science can do without them.

5. Categories are not only a theoretical reproduction of reality but also a means of transforming it.

6. They are focal points of thought and act as

yardsticks of knowledge and of the understanding of the world (ibid.).

7. Categories are interconnected and form a system which is dialectical in the sense that it is based on the unity of the logical and the historical.[3]

Bogomolov (Philosophical Encyclopedia: 99) divides categories, in the same way as Hegel did, into three sections: The section on being, containing such categories as those of matter, space, time, etc..., which occupied us in the previous chapter; the section on essence which deals with the basic categories of the dialectic such as quantity, quality, leap, measure, node, which will occupy us in this chapter, and the section on knowledge where one considers such categories as practice, truth, logic, the logical and the historical, with which we will deal in the next chapter.

4. Laws of Social Development

We have already mentioned that dialectical and historical materialism are said to form an integrated whole within the philosophy of Marxism-Leninism. The bond which ties these two doctrines together lies precisely in the fact that historical materialism is the result of the application of materialism and dialectics to the study of human society. In the same way as dialectical materialism regards being (matter) to be primary in relation to consciousness, so, too, historical materialism regards social being (the material life of society) to be primary in relation to social consciousness. In either case, being, which is regarded as objective reality, is reflected in consciousness (Fundamentals, 1974: 278; Glezerman, 1968: 14-15). Thus, "the principal propositions of historical materialism are a continuation and specification of the propositions of dialectical materialism as applied to the study of social life; there is an inner connection between them" (ibid.: Glezerman).

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[3] See next Chapter.

In the same way that nature is governed by certain laws, so, too, the history of society, even though containing certain laws which differ radically from the laws of nature, is a "natural-historical process" that is "as necessary and objective, as much governed by law, as natural processes; it is a process that, not only does not depend on man's will and consciousness, but actually determines that will and consciousness" (Fundamentals, 1974: 277). The development of pre-socialist society (capitalism) occurred as a natural-historical process, and this is what Marx and Engels postulated, in the sense that the determinative force behind this process was the change and development of production. This production, although being the activity of men is nevertheless determined by objective laws of which men are not aware (ibid.: 279). Driven as they are, by vital needs, people work, produce goods and exchange them, and the economic relations thus formed (the base) does not depend on their conscious choice but on the level of social production they have achieved. Moreover, the will, aims, desires and aspirations of people, conditioned as they are by their social or personal interests, clash, interweave, and contradict each other, in such a way that the outcome of it all is often that the desired is only rarely attained (ibid.). It is this clash of "innumerable intersecting forces" which gives rise to the historical event.

However, under socialism, when society gains control over social relations, people start to achieve their aims and to overcome gradually the spontaneity of the historico-social process (ibid.). Yet, even here, social processes are determined by objective laws. However, "by coming to know these laws and acting in accordance with them, mankind can consciously influence the course of social development" (Soviet Encyclopedia, 1970, Vol. 10: 521). Under socialism, the people, the masses, led by the Communist Party, become increasingly capable of subjugating objective laws to their will thus achieving their aims in greater measures (Fundamentals, 1974: 287).

Some of the laws of social development applicable to all stages of social development are: The law of the determining role of the mode of production in relation to a particular structure of society, the determining role of the economic basis in relation to the social superstructure, the dependence of the social nature of the individual on the sum total of social relations, etc.. (ibid.: 281). Besides these general sociological laws, some other laws pertain to certain social formations only. Such are, for instance, the law of the division of society into classes, characteristic of capitalist modes of production, as well as the law of the class struggle as the driving force of history which also pertains to capitalist societies; "the laws of each separate socio-economic formation, though specific in relation to the general sociological laws, are themselves general laws for all countries that are part of a given formation. Here, as in other fields, there is a dialectical unity of the general and the particular, the international and the national" (ibid.: 283).

Being universal laws of motion and development, the laws of the dialectic are at work under all socio-historical formations. However, because every law operates under definite conditions, they assume specific forms in different formations and different countries. For instance, contradiction takes the form of "antagonism" in class societies, whereas, under socialism, it is "non-antagonistic". The same applies to the dialectical leap. It takes the aspect of a sudden violent leap in capitalist societies, whereas under socialism it is gradual and evolutionary.

5. The Soviet Classics' Classification of the Dialectic

A. Lenin's 16 Elements of the Dialectic

Dialectics for Lenin is not only the science of the general laws of motion, but also, "the doctrine of development in its fuller, deeper form, free from one-sidedness. The doctrine also of the relativity of human knowledge that provides us with a reflection of eternally developing matter" (Philosophical Notebooks). Lenin mentions the three laws of the dialectic but emphasises that materialist dialectic does not consist of "wooden trichotomies" (ibid.). The essence of dialectic for him does not reside in the celebrated Hegelian triad of thesis, antithesis, and synthesis. Rather, this essence is the doctrine of the unity and struggle of opposites (ibid.:109). The heart of the matter resides for Lenin in that everything is many-sided, related to everything else, and developing. Lenin does not list the laws of the dialectics as Engels did, but he stresses the relatedness and dynamics of all things. Evolution is the result of the struggle of opposites: This is the source of self-movement, for the unity of opposites is necessarily conditioned and temporary.

It would be useful to quote a page from Lenin's Philosophical Notebooks (pp. 221-222) which illustrates very well the relative importance of the separate elements in Lenin's dialectic. These are formulated as follows:

> 1. The *objectivity* of consideration (not example, not divergence, but the thing-in-itself).
> 2. The entire totality of the manifold *relations* of this thing to others.
> 3. The *development* of this thing, (phenomenon, respectively), its own movement, its own life.
> 4. The internally contradictory *tendencies* (and side) in this thing.
> 5. The thing (phenomenon, etc...) as the sum *and unity of opposites*.
> 6. The *struggle*, respectively unfolding, of these opposites, contradictory strivings, etc.
> 7. The union of analysis and synthesis - the break-down of the separate parts and the totality, the summation of these parts.
> 8. The relations of each thing (phenomenon, etc.) are not manifold, but general, universal. Each thing (phenomenon, process, etc.) is connected with *every other*.
> 9. Not only the unity of opposites, but the *transition of every* determination, quality, feature, side property into every other (into its opposite?)
> 10. The endless process of the discovery of *new* sides, relations, etc.
> 11. The endless process of the deepening of man's knowledge of the thing, of phenomena, processes, etc., from appearance to essence and from less profound to more profound essence.

> 12. From co-existence to causality and from one form of connection and reciprocal dependence to another, deeper, more general form.
> 13. The repetition at a higher stage of certain features, properties, etc., of the lower and
> 14. The apparent return to the old (negation of the negation).
> 15. The struggle of content with form and conversely. The throwing off of the form, the transformation of the content
> 16. The transition of quantity into quality and vice versa (15 and 16 are *examples* of 9).

In his consideration of the last two points merely as illustrations of point 9, Lenin seems to disagree with Engels who considered the transition from quantity to quality as one of the three basic laws of dialectic (Dialectics of Nature: 27). Another interesting feature here is that Hegel's synthesis plays a subordinate role. As we shall shortly see, Stalin does not mention it. And contemporary Soviet thought puts more emphasis on the struggle of opposites, the destruction of the old by the new. Of the 16 elements of Lenin's dialectic, the dialectical contradiction and struggle of opposites is emphasised in 5 points, namely numbers 4, 5, 6, 9 and 15, a fact which is not surprising since Lenin's concern is not with abstract dialectics, but with the application of dialectics to all fields. He took from Marx the realisation that the history of mankind is the history of class struggles identified under capitalism with the splitting of society into two classes: the bourgeoisie, the dominant one, and the proletariat, the revolutionary one. As to the notion of dialectics as the doctrine of the interrelatedness and dynamics between all phenomena, it is expressed in points, 2, 8 and 10 of the 16 elements. Even in Engels we already find this notion of universal connections as a presupposition of the dialectical approach: "The first thing that strikes us in considering matter in motion is the interconnection of the individual motions of separate bodies, their *being determined* by one another" (Dialectics of Nature). In his account of the features of the "Marxist dialectical method", Stalin further stresses this point. As we saw in our outlining of the meaning of "dialectical" in Soviet usage, contemporary Soviet thought stresses the notion of interdependence and considers it to be a constitutive definition of the concept of dialectic.

B. Stalin's Classification

In his 1938 "Dialectical and Historical Materialism", a 30 page essay which more often than not reiterates the ideas expressed in Lenin's 16 elements of the dialectic, Stalin set the matter in an altogether different fashion. He omitted the law of the negation of the negation, and in lieu of Engel's three basic laws, he lay down four "principal features of the Marxist dialectical method." These can be summarised as follows (p. 407):

1. The general connection between phenomena in nature and society
2. Movement and development in nature and society
3. Development as a transition from quantitative changes into qualitative ones
4. Development as a struggle of opposites.

Until his death in 1953, or rather until his demotion by Kruschev in 1956, this arrangement was slavishly followed by Soviet authors. At that time, however, voices were starting to be heard urging the abandonment of this scheme and a revival of the law of the negation of the negation. Thus, Stalin's scheme was abandoned and there was a resumption of Lenin's project to organise a systematic study of Hegel's dialectic from a materialist point of view. Engels' three basic laws, with either one of the two first ones being given the first place, were reintegrated in Soviet formulation of the essence of the dialectics. However, Stalin's "first two features" were kept along with the three dialectical laws in the general doctrine of the dialectics because of the emphasis that had been accorded to them by Engels and Lenin. It is worth noting that by omitting the law of the negation of the negation, Stalin endeavoured to explain the dialectic without recourse to the negative. For him dialectic is no more than the progressive and dynamic movement which originates in the contradictions inherent in things. Moreover, he mistakably refers to the dialectical laws as "features of the Marxist dialectical method" even though they were meant as ontological assertions about reality. There is no doubt that almost twenty years of compliance to Stalin's philosophical views left their mark on contemporary Soviet thought up to the present time. His two first features, namely the law of the movement and development of phenomena and that of the reciprocal conditioning of phenomena are still retained in Soviet writings as principles of the dialectic and as characteristics of dialectical logic (as a method).

Stalin's First Two "Features of the Marxist Dialectical Method"

Stalin writes: "Contrary to metaphysics, dialectics does not regard Nature as an accidental agglomeration of things, of phenomena, unconnected with, isolated from and independent of each other, but as a connected and integral whole, in which things, phenomena, are organically connected with, dependent on, and determined by each other" (*ibid.*). In other words, there are no isolated phenomena. Each phenomenon belongs, at any given moment, to a whole with which it is organically united.

In this first principal feature which is no more than the enunciation of a platitude, Stalin formulates the ideas underlying numbers 2, 7, 8, and 10 of Lenin's 16 elements of the dialectic. The second "principal feature" is formulated by Stalin as follows: "Contrary to metaphysics, dialectics holds that Nature is not in a state of rest and immobility, stagnation and immutability but in a state of continuous movement and change, of continuous renewal and development, where something is always arising and developing, and something always disintegrating and dying away" (ibid.).

Of the 16 elements of the dialectics outlined by Lenin, this formula corresponds above all to the third. And it is precisely this element that has been responsible for the Soviet philosophers' habit of equating dialectical with dynamic, as we saw when dealing with the meaning of "dialectical" in Soviet usage. This can also be seen in Engels for whom dialectics is that which grasps things and phenomena basically in their interconnection, sequence, movement, birth and death (Anti-Dühring). With Stalin the emphasis put forward is about evolution. Everything is in motion; the movement is not circular, but linear; moreover, it is an upward movement leading towards more complex forms which are at the same time better forms. Thus, Stalin states that the process of evolution must be understood, not as a circular movement, as a mere repetition of what has been, "but as a progressing movement, an upward movement..., as an evolution from the simple to the complex, from a low phase to a higher one" (ibid.).

Now "metaphysics" is accused of ignoring all this. It is not our intention here to deal with the veracity of this claim and to try to assess the all too widespread accusations which, ever since Engels, abound in Soviet writings against the exponents of idealist philosophy. The interesting point here is that such accusations have been inherited from Engels and constitute a uniform style of procedure in Soviet writings on dialectical materialism.

We can add that Stalin's first two features of the dialectical method are obvious commonplaces. Yet they were meant by him as pointers to research, and as a method of investigation. As a concluding statement of the second feature, Stalin adds that the dialectical method requires one to study phenomena from the point of view, not only of their interconnection, but also of their change and development (ibid.: 407-408). Moreover, since everything in the world is in a state of development, it must be very important to become acquainted with the laws of this development and this is precisely where the materialist dialectic comes in. From this point of view, it is first and foremost the foundation of a scientific knowledge of the past and the basis of Marx's contribution to social theory. It is probably due to this notion that dialectical is often equated with historical in Soviet writings.

6. The Laws of the Dialectic

A. The Unity and Struggle of Opposites

In contemporary Soviet thought since the death of Stalin (1953) who assigned the law of the unity and struggle of opposites only the fourth position in his list of "the principles features of the Marxist dialectical method", this law is considered to be the "nucleus", the "core" and the "essence" of materialist dialectic (*Fundamentals*, 1963: 78; *Dictionary of Philosophy*: 466; Spirkin, 1971: 60; *Soviet Encyclopedia*, 1970, Vol. 9: 501). In fact, Engels listed it as the second law of his three dialectical laws, and Lenin repeatedly asserted that dialectics "is the teaching which shows how opposites can be and how they happen to be identical" (*Philosophical Notebooks*: 109). For Lenin, and following him, present day Soviet philosophy, the essence of dialectic is the unity and struggle of opposites, the law which contains the source of development, the "why" of change; which yields to the transition of quantity into quality, accompanied by leaps and often by a certain repetition at a higher stage, an apparent return to the old (negation of the negation) (_ibid_.: 360).

Following Lenin, rather than Stalin, Soviet philosophy credits this law with supreme importance, and views contradiction to be "the chief category of materialist dialectics" (_Dictionary of Philosophy_: 122; _Fundamentals_, 1963: 78) and the law which encompasses it, namely, that of the unity and struggle of opposites, as "the most fundamental and universal law of dialectics" (_Fundamentals_, 1963: 78; _Soviet Encyclopedia_, 1970, Vol. 9: 501). This law is said to explain the origin of motion as self-motion, without recourse to a supernatural First Mover. On the other hand, it is said to reveal the concrete unity of diversity as a concrete identity, one which views the development of an object in "the logic of concepts" (_ibid_.: _Soviet Encyclopedia_). G.S. Batishchev (_ibid_.) expresses the typical argument in Soviet writings on the question:

> Characterising an object as subordinate to the law of unity and struggle of opposites points to a source of general movement and development to be found not in metaphysical or supernatural forces, but within the object, in its self-motion and development ... [It] removes the illusion of finality from any organic form of existence in nature and society.

Thus, dialectical materialism claims to solve the problem of the origin of motion in the world by conceiving of all motion as ultimately self-motion, as we saw in the previous chapter. Its source is said to be derived from the internal oppositions or contradictions inherent in all things and phenomena. By contradiction is understood the relationship between two opposites, while the opposites constitute the two sides of the contradiction (Spirkin, 1971: 57). The unity of opposites is achieved by the nature of the link which ties them together, one which is so tight as not to allow the existence of one opposite without the other (ibid.: 56). Their conflict or struggle resides in their mutual exclusiveness, not only in different respects, but also in one and the same respect (Dictionary of Philosophy: 466). This struggle is further complicated by the fact that each of the relatively independent external opposite is in itself contradictory (Soviet Encyclopedia, 1970, Vol. 9: 502). It is this conflict which forms the internal source of self-motion thereby constituting a law of development: It culminates in the destruction of the old forms and the emergence of new ones (Fundamentals, 1963: 78). In the words of the Fundamentals (1974: 152) the essence of this law can be formulated as follows:

> According to this law all things, phenomena and processes possess internal contradictions, opposing aspects and tendencies that are in a state of interconnection and mutual negation; the struggle of opposites gives an internal impulse to

> development, leads to the building up of contradictions, which are resolved at a certain stage in the disappearance of the old and the appearance of the new.

The concept of development so conceived is directed against the metaphysical view of development which views the latter as an increase and a repetition rather than a unity of opposites (Soviet Encyclopedia, 1970, Vol. 8: 186), thus considering the origin of motion as something external. Furthermore, this metaphysical view substitutes for motion and the concrete unity of diversity, simple descriptions of the external results of motion (Dictionary of Philosophy: 466). Lenin had already expressed the view that there are essentially two concepts of development in the history of philosophy:

> The two basic (or two opposites) or two historically observable conceptions of development (evolution) are: Development as decrease and increase, as repetition, and development as a unity of opposites (the division of the one into mutually exclusive opposites and their reciprocal relation).
> (Philosophical Notebooks: 360).

In the first conception, the driving force of self-movement remains shady, and leads to God as an external mover; it is lifeless, poor and dry. As to the second concept, so Lenin asserts (ibid.) and following him contemporary Soviet philosophers who never fail to paraphrase or quote Lenin's words on this question

(Fundamentals, 1963: pp. 79-80; Philosophical Encyclopedia: 97), it is vital and furnishes the keys to the leap, to the break in continuity, to the transformation into the opposite, and to the destruction of the old and the emergence of the new. Following Lenin's line of /thought, the Dictionary of Philosophy (p. 466) concludes in favour of the Marxist dialectical approach: "The history of dialectics is the history of the controversy surrounding these problems and the attempts to resolve them." The authors of the Fundamentals (1963: 79) assert that "The metaphysical conception not only advanced a one sided, and therefore, distorted notion of development, but led to fideistic conclusions, i.e., the recognition of a divine principle.... In the final analysis, God was this external source which imparted motion to matter".

It is outside the scope of this work to analyse the veracity of the Marxist classics' claim and hence the contemporary Soviet claim concerning the failure of the pre-Marxist dialectical trends to account for the origin and the process of development. It is sufficient to mention, and we have so far emphasised this point, that Soviet philosophical writings invariably contrast the uniqueness of Soviet thought with earlier "pre-Marxist" endeavours which are usually lumped under the pejorative terms "metaphysical", "idealist", or "bourgeois". Thus, all the previous attempts in dialectical philosophy, whether in the hands of the ancient Greeks such as Heraclitus, Zeno, Elea, Aristotle, Socrates, etc..., as well as the more recent theories of Kant, Fichte, Schelling, etc.., are said to have suffered the same "metaphysical" flaws (Soviet Encyclopedia, 1970, Vol. 8: 186). This characteristic of Soviet dialectical materialism, namely that of lumping together all pre-Marxist attempts under the same category, along with its division of the history of philosophy into two opposing camps, namely materialism and idealism have been the object of much criticism amongst Western critics of Soviet dialectical materialism (Althusser, 1971: 53-54; Bochenski, 1963: 84). There is no doubt that this Soviet particularity is just one further manifestation of partisanship of philosophy. That Marxism's political line is always "inseparably bound up with its philosophical principles" (Fundamentals, 1974: 43) has long been adopted by Soviet dialectical materialism; it implies "consistent and implacable struggle against theories and beliefs hostile to the cause of socialism" (ibid.).

Nevertheless, Soviet dialectical materialism does not deny its indebtedness to the "idealist" Hegel whose dialectical laws were borrowed, first by Engels, then by Lenin, Stalin, and contemporary Soviet philosophy. In fact, Hegel's dialectic is recognised in Soviet thought as the "summit in the development of pre-Marxian dialectics"

(Dictionary of Philosophy: 121) in that for the first time the whole world, historical, natural or intellectual was viewed as a process, i.e., as in constant motion and development. However, it is Marx and Engels, according to Soviet thought, who were the first to give Hegel's idealist philosophy a scientific grounding, because they applied the dialectic to the materialist understanding of the development of nature, society and thought (Dictionary of Philosophy: 121; Fundamentals, 1963: 59-62). In his 1971 textbook on dialectical and historical materialism, Spirkin (p. 18) declares:

> Marx's dialectic is radically different from that of Hegel's. The point is that Marx and Engels created *materialist dialectics* as distinguished from Hegel's *idealist dialectics*. They taught that dialectics reigns supreme in nature. Thought studies and, as it were, photographs the dialectic of natural and social development. Hegel has it all upside down: Thought develops all by itself, independently of, and despite of nature.... Marxism put Hegel's dialectics on its feet. But this means that Marxist dialectics is the direct opposite of Hegel's dialectics.

It is also recognised in Soviet dialectical materialism that the German Marxist classics and Lenin took the concept of self-development from Hegel, retaining the principle of contradiction but giving it a materialist meaning (Fundamentals, 1963: 77). In fact, Hegel dealt with this notion in the second book of his Science of

Logic which made a lasting impression on Lenin. On entering a passage where "the German idealist" stresses the notion of contradiction as the root of all movement, Lenin underlines it with heavy strokes so as to emphasise it, and then adds "who would have thought that this is the core of 'Hegelism', the abstract and abstruse (dreary, absurd ?) business of Hegelizing? This core has had to be discovered, grasped, 'rescued' peeled out, purified, and Marx and Engels have already accomplished it" (Philosophical Notebooks: 141).

One of the "materialist" interpretations of Hegel consists in viewing the contradiction inherent in self-movement as a real, concrete one, "objectively present in things and processes themselves and so to speak appears in corporeal form" (Engels, Anti-Dühring: 167). Following Engels, contemporary Soviet thought considers opposites to be always "concrete and definite" (Fundamentals, 1963: 80) and as a result of that, the dialectical approach unfolds contradictions in things because it approaches them in their motion, their change, and their interactions with other aspects (ibid.: 77).

Engels viewed motion as a contradiction (Anti-Duhring: 167), and following him, Lenin insisted that "motion is the union of continuity (of space and time) and discontinuity (of space and time). Motion is a contradiction, a union of contradiction" (Philosophical Notebooks: 258).

This applies not only to spatial movement, but also to motion of any kind in the sense of change in general. All development is a contradiction, a union of mutability and constancy, and motion itself is inseparable from contradiction. This notion is adopted in contemporary Soviet thought. In the Soviet Encyclopedia (1970, Vol. 7: 596) the view is expressed that the contradictory nature of motion consists in the unbroken unity of the two opposing factors, changeability and stability, motion and rest.

But although opposites, the components of real contradiction form a dialectical unity, is is emphasised that in the dialectical relationship of unity and struggle, the unity is only relative, passing, while their struggle is absolute (ibid.; Spirkin, 1971: 59). The contemporary Soviet attitude gives credit to Lenin for having formulated this thought:

> The unity (coincidence, identity, resultant) of opposites is conditional, temporary, transitory, relative. The struggle of mutually exclusive opposites is absolute just as development and motion are absolute.
> (Philosophical Notebooks, Quoted in ibid.).

The rationale behind this thought, as Soviet orthodoxy views it, lies in the fact that the concept of change is plausible only with the idea of a relatively stable continuously fixed state. But this very change is simultaneously a fixed state which maintains itself, i.e., it also possesses stability. The fact that in this contradictory unity changeability rather than stability plays the leading role is rationalised by the fact that everything new in the world appears by means of it, "whereas stability and rest merely fix what has been attained through this process" (Soviet Encyclopedia, 1970, Vol. 7: 596).

In the concrete, these inner contradictions are revealed in the fact that every entity in the objective world and in cognition is subject to a bifurcation into mutually exclusive opposing moments, tendencies and aspects (ibid., 1970, Vol. 8: 190). Such pairs of opposites are to be met with in every sphere of reality including all fields of science. It is said that the law of unity and struggle of opposites "determines the structure of scientific theory inasmuch as it reveals the dialectical division of unity" (Dictionary of Philosophy: 467). In mathematics, for instance, one deals with the opposed operations of addition and subtraction; in mechanics, with action and reaction, attraction and repulsion; in physics, with positive and negative electric charges; in chemistry, with the dissociation and combination of atoms; in the physiology of the higher nervous system, with the principle of excitation and inhibition in the cerebral cortex (Pavlov's theory) (Fundamentals, 1963: 78). This is Lenin's classification in "on the question of the dialectics" (Philosophical Notebooks: 359). In biology, the formation of new forms of life takes place through the unity and struggle of opposites in heredity and variability (Soviet Encyclopedia, 1970, Vol. 9: 501). In human thought, in the process of cognition, dialectical contradiction is revealed through the continuous conflicts of opposite views, old and new theories which require a solution (Dictionary of Philosophy: 467). That the process of cognition is included in this law is due, of course, to the fact that the dialectical laws operate in nature, society and thought, and to the further thesis on the correspondence of objective and subjective dialectic (see next chapter).

Due to its inheritance of Marx's social theory, Soviet thought stresses that the struggle of opposites in the literal meaning of the word occurs chiefly in human society. It is to be taken less literally as regards the organic world, and as to inorganic nature, it is "to be understood still less literally (Fundamentals, 1963: 78).

It is said that the Marxist doctrine of social development is based on the application of this law to the capitalist order of society. In the latter, bourgeoisie and proletariat are in a hostile opposition and yet, they are so tied up with one another in the economic structure of value and surplus value that one class represents the condition for the other's existence. Socialism occurs as a solution by means of social revolution of the contradictions of capitalism (Dictionary of Philosophy: 467). As we could easily notice from the foregoing, the true meaning of the law of the unity and struggle of opposites consists in providing a philosophical justification for the social phenomenon of class struggle and revolution discovered by Marx. However, what was originally regarded by Marx as a law of social development has undergone a transformation in Soviet dialectical materialism whereby it became an ontological law of being as well, having universal applications.

But in the process, this law becomes a dangerous threat to the Bolshevik régime itself. Such danger resides in the fact that having a universal character of a general law of being, this law will come to be applied in the social field, not only to capitalism, but also to the socialist and communist systems of society. The development of these systems must, according to this law, proceed at the instigation of inner contradictions, unless one is ready to conclude that development ceases with the onset of communism. It was necessary then to draw some nuances within this law so as to saveguard the threat of theoretical ossification of the Soviet system. This was effected by the distinction of "antagonistic" and "non-antagonistic contradictions" which Zhdanov drew in his speech to the Philosophers' Congress in 1947 after the condemnation of Aleksandrov's History of Philosophy in Western Europe. Zhdanov, who was Stalin's son in law was speaking in the name of the Central Committee of the Party of which he was the secretary and was commissioned to do so by Stalin himself (Bochenski, 1963: 38-39). According to the distinction between antagonistic and non-antagonistic contradictions, which is still held in contemporary Soviet thought, the first are proper to social relations in an exploiting society and are due to irreconcilable interests of the hostile classes (Fundamentals, 1974: 147). Thus, the contradiction between the bourgeoisie and the proletariat, between exploiters and exploited, oppressors and oppressed are examples of such antagonistic contradictions occurring in capitalist societies. These types of contradictions can only be resolved through violent means such as wars and revolutions (ibid.).

As to the non-antagonistic contradictions, they come to replace the antagonistic contradictions, under a communist order of society. They are contradictions which exist, not between hostile classes, but between classes and social groups who share, at some point and for some time, the same basic interests (ibid.: Fundamentals; Spirkin, 1971: 64). It is a characteristic of this type of contradictions that their development does not necessarily entail hostility, and the struggle which they entail does not rise to the level of open conflict: "A vitally important feature of such contradictions is that there is no objective necessity for the opposing sides and tendencies to become polarised into hostile extremes" (ibid.: Fundamentals: 148). An example of non-antagonistic contradictions which Soviets give is the contradiction which existed during the period of transition from capitalism to socialism in the Soviet Union between the landowner system and the tsarist autocracy on the one hand, and all the forces, particularly the working classes, that were opposed to them, on the other (ibid.: 149; Dictionary of Philosophy: 21).

Non-antagonistic contradictions under socialism (contradictions between classes of working people - the working class and the peasantry, and contradictions which arise in the process of the growing of socialist society into communist society) can be gradually overcome, by means of planned economic activity and by changing the conditions that give rise to them (ibid., Fundamentals: 148). This is not to say that they disappear altogether under a socialist system: "Changes in the nature and content of contradictions lead to changes only in the form of their resolution, but contradiction as a law of development does not disappear under socialism" (Dictionary of Philosophy: 21). In this context, the 1974

Fundamentals of Marxist Leninist Philosophy (p. 149) quote Brezhnev's declaration at the 24th Congress of the C.P.S.U. (1971):

> The present-day socialist world, with its successes and prospects, with all its problems, is still a young and growing social organism, where not everything has settled and where much still bears the marks of earlier historical epochs. The socialist world is forging ahead and is continuously improving. Its development naturally runs through struggle between the new and the old, through the resolutions of internal contradictions.

A "powerful weapon" against non-antagonistic contradictions under communism is the method of criticism and self-criticism which was so highly emphasised by Stalin. The importance of this method for the life and work of the Party is also stressed as a means by which the latter can overcome its own mistakes. This "weapon" is considered as "one of the mainsprings of social development" (Dictionary of Philosophy: 103) and Marx and Lenin (rather than Stalin) are given credit for having put forth criticism and self-criticism as a way to solve non-antagonistic contradictions (ibid.; Fundamentals, 1974: 149).

B. The Transformation of Quantity into Quality

We have already mentioned that dialectical materialism conceives of motion (dealt with in the previous chapter), not as a cyclical motion, but as one having the character of development in which elements of novelty come to light. The law of the struggle and unity of opposites, as we saw, accounts for the origin of development so conceived. It provides comprehension of dialectical contradiction as the source of development, thereby accounting for the why of movement. The second law of the dialectics, the transformation of quantity into quality describes, in its turn, the mechanism of movement, the "how" of development. The definition of this law runs as follows:

> This law is an interconnection and interaction of the quantitative and qualitative aspects of an object thanks to which small, at first imperceptible, quantitative changes, accumulating gradually, sooner or later upset the measure of that object and evoke fundamental qualitative changes which take place in the form of leaps and whose occurence depends on the nature of the objects in question and the conditions of their development in diverse forms.
> (Fundamentals, 1974: 140).

Before analysing the components of this law, it is worth mentioning that according to Stalin's formulation, it figured as the third "principal feature of the Marxist dialectical method." In contemporary Soviet thought, however, it is accorded the second position (Philosophical Encyclopedia: 95), and in some cases it is listed in the first place (Soviet Encyclopedia, 1970, Vol. 8: 186;

Fundamentals, 1974: 130) following Engels' mode of treatment. In any case, it is referred to as "one of the basic laws of dialectics" (Soviet Encyclopedia, 1974, Vol. 19: 707) the importance of which is stressed as a necessary law for the understanding of the dialectical evolution of matter.

The content of this law runs as follows: The development of things and phenomena in the world proceed up to a certain point in the form of a gradual, merely quantitative change, by successive subtraction or addition. But once this quantitative change reaches a certain limit, a sudden shift occurs which produces radical qualitative changes involving the disappearance of old qualities and the appearance of new ones. These new qualities produce in their turn, further quantitative changes (Spirkin, 1971: 51). The content of this law is revealed by the dialectical categories of quality, quantity, property and measure.

In dialectical materialist usage, quality indicates the internal nature of an object. It is what defines an object as one thing and not another (Fundamentals, 1974: 132). It is an objective category. It is inseparable from the thing in question, being indissolubly bound up with it, and moreover, it is something peculiar to the given object alone (ibid.). Dialectical materialism follows Hegel in distinguishing between quality and property.

Hegel defined quality as the "immediate determinateness of something"; whereas he viewed the properties of an object to comprise its "determinate relations to Other; property is given only as a mode of attitude of one towards an Other" (Hegel, Science of Logic, Vol. 2: 116). For Soviet dialectical materialism, too, property is distinguished from quality in that the former signifies a determinateness in its relation to other things, whereas the latter represents an inner definiteness intrinsic to the object (Fundamentals, 1974: 132).

The category of quantity is defined as "that definiteness of a thing, owing to which it can be (really or mentally) divided into homogeneous parts or assembled from these parts" (Dictionary of Philosophy: 374). The category of quality is connected with that of quantity in Soviet orthodoxy. These two categories are dialectically united, i.e., they are distinct but inseparable. Every being has both a qualitative and a quantitative determinacy. The latter is characterised by magnitude, number, volume, degree of development of properties, etc... (ibid.). However, in contrast to quality, quantity is not so closely connected with the being of an object: Quantitative modifications do not always yield to qualitative, essential changes in an object (ibid.). Thus, whereas quality gives expression to the relative stability of the thing, its inner unity, quantity refers to its capacity for change while leaving its qualitative definiteness undisturbed; "the differences between dissimilar objects are qualitative, the difference between similar objects are quantitative" (ibid.). However, this invariance of quality in the course of quantitative changes is only relative, for it extends only up to a certain limit beyond which new qualitative changes suddenly take place. This organic unity of qualitative and quantitative determination is described by the category of "measure".

Measure constitutes the limits beyond which the quantitative attributes of a qualitatively distinct object, in the course of their mutation will lead to qualitative changes. The points of transition from one measure to another are referred to as nodes (Dictionary of Philosophy: 282). This view also goes back to Hegel, a fact which is recognised in Soviet writings: "Hegel was the first to elaborate measure as a philosophical category" (ibid.: 282). But although Soviet philosophy gives Hegel the credit of having been the first to formulate the law of transition from quantity to quality, he is said to have done so in a regretably idealist fashion. For him, quantity and quality figure as determinate stages in the development of the absolute Idea, but they are not related to material objects of any kind (ibid.: 459).

This law is reinforced by a number of examples taken from various fields of science. In physics, for instance, the change in the length of electromagnetic waves tends to coincide with marked qualitative changes shown in the elements. In chemistry, the quantitative division of substance below the molecular level yields to qualitative changes (individual atoms having different properties from those of the molecule they comprise) (Fundamentals, 1963: 73). In the field of social theory, the reference is to the increase of production which changed the economic life of society from one which produces all it needed for its own existence, thereby basing itself on natural economy, to one which became characterised by commodity economy, in which people produce goods for exchange rather than for their own consumption (ibid.).

The passage of quantity into quality is also followed by one from quality to quantity. A new quality will entail a new qualitative definiteness, such as for instance, is the case for socialist economy which develops at a higher rate than capitalist economy (ibid.). This law, then, seems to be one of the pillars in the philosophical edifice of dialectical materialism. It is taken to provide theoretical warrant for the assumption of an unbroken rule of transformation working throughout the entire universe: "The passage of quantitative changes into radical qualitative changes, and vice-versa, constitutes the universal *dialectical law of development*. It operates in all the processes of nature, society and thought - in all spheres where the old is replaced by the new" (ibid.: 74). In contrast, however, to mechanistic materialism, there is no immediate elimination of the essential, qualitative differences between the various realms of being: The atom does consist of electrons, but despite this fact, its laws cannot be reduced to those of the electrons. The same applies to the cell, the organism, mind, society, etc.... (ibid.: 72). The "forms of motion" governing each of these spheres are basically irreducible to another lower form.

All qualitative changes take place in the form of leaps. A certain process ends in a leap, which denotes the moment of qualitative change of an object, the breakthrough, the critical stage in its development. "In the general thread of development a new knot is tied" (Fundamentals, 1974: 137). In this context, Lenin's statement is quoted (in ibid.): "Capitalism creates its own grave-digger, itself creates the elements of a new system, yet, at the same time, without a 'leap' these individual elements change nothing in the general state of affairs and do not effect the rule of capital". Thus, leap is a type of development that occurs much quicker than the form of continual development. It is the period of most intensive development, when the old and obsolete are transformed and make way for new, higher stages of development. Social revolutions for instance give a great impetus to the development of the material and spiritual life of societies (ibid.). Moreover, nature and natural processes offer a number of examples when leaps and transformations from one quality to another take place in the form of rapid changes. Such are the qualitative transformations of elementary particles, chemical elements, chemical compounds, the release of atomic energy in the form of atomic explosions, etc. On the other hand, some changes in nature can occur only gradually; such is the case for example with the evolution of animal species. Whether gradual or sudden, the leap implies a breach of continuity (ibid.).

As was the case with the first law of the dialectic, this doctrine harbours a danger to the Soviet system itself. For the doctrine which holds that evolution (gradual leaps) and revolution (sudden leaps) are "inseparably connected aspects of development" (Dictionary of Philosophy: 151) would lend itself to the conclusion that even the Soviet order could be subject to a sudden dialectical leap in the form of political upheaval in the social field. Was not that the case with the October Revolution in Russia, which Soviet writings give as an example of a sudden leap? (Fundamentals, 1974: 140).

In order to avoid such a conclusion, Stalin introduced in his letters on linguistics a major distinction which is still held in Soviet thought of the present. Sudden or violent leaps are "characteristic of antagonistic formations, in which the dominant class is an obstacle to the historically urgent transition from the old to the new system" (Dictionary of Philosophy: 240). As to gradual leaps, they are typical of non-antagonistic systems, in which all the basic social forces are directed towards the same interests (Fundamentals, 1974: 140). Moreover, in socialist societies the very development of society proceeds, not in a spontaneous fashion, but according to plan, in the form of "conscious preparations for leaps ahead" (ibid.). It is therefore natural that the prevailing form here would be one of gradual transition from one qualitative state to another. The transition from socialism to communism is an example of gradual leaps. However, this does not mean that there are no sudden, rapid qualitative transformations under socialism: "Sharp and sudden changes in technical development, evoked by great discoveries, by the new technical possibilities of development of production, or by new forms of activity accelerating progress" (ibid.) are examples of sharp leaps occurring under communism.

C. The Negation of the Negation

This doctrine of dialectical materialism has had a checkered history. Engels devoted to it a whole chapter in *Anti-Dühring*; in Lenin's list, it figured as numbers 13, and 14 of the 16 elements of the dialectic. Until 1938 it was taken into account in Soviet writings on dialectical materialism, and was considered one of the essential laws of the materialist dialectic. However, after the appearance of Stalin's "Dialectical and Historical Materialism" in 1938, Stalin became the master of orthodoxy and the "classic" par excellence. He deleted the law of the negation of the negation and the Soviet works published during his life time followed their leader's lead. After his death, however, this lacuna was denounced, first by Kedrov in a review of collective work (1954) directed by Aleksandrov, and then in an article in *Kommunist* (Bonjour: 129-130). Since then, this law has been revived and the *Soviet Encyclopedia* (1974, Vol. 19: 102) refers to it as one of the basic laws of the dialectic "which characterises the direction of development, the unity of progress and continuity in development, the emergence of the new, and the relative recurrence of some elements of the old".

In the opinion of present-day Soviet philosophers, this law reveals the development of nature, society and thought (*ibid*.; *Dictionary of Philosophy*: 311) and can only be understood on the basis of Engels' first two laws, especially the law of the struggle and unity of opposites (ibid.; Dictionary of Philosophy). The latter discloses the nature and origin of development; the law of transition from quantity to quality reveals the form of development, while the third law, the negation of the negation, expresses the direction and result of development. The first law tells us why development occurs, the second, how; and the third whither it is going (Soviet Encyclopedia, 1974, Vol. 9: 102). Now to the definition of the essence of this law. In Spirkin's words (1971: 67):

> The law of the negation of the negation states that in the course of development each higher stage negates or eliminates the previous stage by raising it a step higher while retaining all that is positive in it.

The content of this law is, briefly, as follows: The sudden change to a new quality, as depicted in the law of the transformation of quantity into quality implies the negation of the previous quality. However, this is not the end of the story. The new quality becomes in its turn the starting point for a process of development which once more brings its own negation. The first negation is transcended into a new one. This new negation contains in itself the old one, but in a higher, richer form. "The law of the negation of the negation is the universal form of the splitting of a single whole and the transition of opposites into each other - that is, the universal manifestation of the unity and struggle of opposites" (Soviet Encyclopedia, 1974, Vol. 19: 102).

This law is supposed to show how it is that, despite the negation, the dialectical process of development retains its relation with the past, thus forming "continuity in the dis-continuous", or "successiveness within development" (ibid.). Thus, it avoids the "bare" and "purposeless" metaphysical negation which views this process as an absolute annihilation of the old. In dialectical materialism, the negation of the negation implies no immediate cancellation of the past, but a denial which preserves all that is positive in the previous stage of development:

> Negation is dialectical only when it serves as a source of development, when it retains and preserves all that is positive, healthy, valuable. (Spirkin, 1971: 68).

Thus, according to this law, development takes place in cycles, each one of which consisting of three stages: The original stage of the object, its transformation into its opposite (its negation) and the transformation of the opposite into its own opposite (negation of the negation) (Soviet Encyclopedia, 1974, Vol. 19: 102). "The negation of the negation is the synthesis of all previous development, the synthesis of these one-sidedly opposite forms, which overcome and resolves the contradictions between them" (Fundamentals, 1974: 155). This dialectical negation is seen as a condition, an objective moment of development, a development which takes the form of an ascending spiral. The movement is only apparently reverting to its starting-point, but in reality, it regains its original position at a higher level (ibid.). This peculiarity of dialectical development is numbered by Lenin under items 13 and 14 of his list of the elements of dialectic and is often quoted by contemporary Soviet writers. Thus, dialectical development is a "development that repeats, as it were, stages that have already been passed, but repeats them in a different way, on a higher basis, a development, so to speak, that proceeds in a spiral, not in a straight line" (Lenin, Philosophical Notebooks, quoted in Soviet Encyclopedia, 1974, Vol. 19: 102). Thus, as in a spiral, the ultimate point coincides with the point of departure, but at a higher level, "each coil denoting a more developed state" (Fundamentals, 1974: 156).

This characteristic of dialectical negation is said to typify the development of scientific knowledge, as well as that of nature and society. The brain as the organ of thought has developed in this fashion; however, because it is the highest form of development of matter, the laws underlying its functioning cannot be reduced to laws of lower order phenomena. This would be reductionism and mechanism, two errors completely incompatible with dialectical materialism (Fundamentals, 1963). Similarly the working of consciousness which is the highest form of reflection of matter cannot be reduced to mere laws of physiology.

In reference to social theory, dialectical development, according to the negation of the negation, is exemplified by the transition to socialism from private property relations, which replaced primitive communal property. This transition signified more than "an apparent return to the old"; it meant the transition to a novel cycle bearing essentially different internal contradictions and laws of motion (Soviet Encyclopedia, 1974, Vol. 19: 102). At the very beginning of its development social productions assumed a form in which the workman was united with his means of labour, that is, the instruments of labour belonging to the producer himself. This was the "infantile" form, because it was the form typical of the primitive commune and small domestic agriculture connected with domestic production. But as time went on, the growth of the labour productivity attained a stage when the original primitive form combining the consumer and the instruments of labour became a brake on the further development of production. There then appeared private ownership of the means of labour which were separated from the work. This was the first dialectical negation of the original form. But when it achieved its full development in capitalist societies, this form of the division of labour and the means of labour, which in its time, was the negation of their unity, logically prepared the grounds for its own further negation. Having completely exhausted itself, it had to give way to a new and higher form. This is the second negation, the negation of the first negation. (*Fundamentals*, 1974: 155).

In the above example taken from Marx's *Capital*, the resolution of the contradiction between the initial form and the first negation (the thesis and the antithesis) is achieved by the establishment of socialist property in which the unity of the worker and the means of labour is restored, but on a much higher level of development of production than previously existed: "Man is thus relieved of poverty and great opportunities are opened up for his material and spiritual development" (*ibid*.).

In the context of the transition from socialism, Soviet philosophy retains the principle of non-antagonistic contradictions which, as we have seen, explains the particularities of the previous two laws of the dialectic. The dialectical negation of the old under socialism does not bear the character of political revolution or conflict of classes: "During the transition to communism, negation of the principles of socialism will proceed through their full development, which will prepare the conditions for their growing over into communist principles" (Dictionary of Philosophy: 312). Under socialism, the dialectical negation of the old and the assertion of the new is "characteristically a matter of dealing with problems as they arise, on a planned basis and under the control of society itself" (*ibid*.: 158). Furthermore, only socialist society, that comes to replace capitalist society, can retain and preserve the values of the material and intellectual culture achieved by previous development (*ibid*.: 159); "Communism is the highest stage of social development. While decisively negating the features, born of the old exploiting society, which retard progress, it synthesises in itself on a new basis all the achievements of mankind" (*ibid*.).

Critical Remarks

A. On the Applicability of the Dialectic to Nature

The critics of Marxism-Leninism admit the existence of a dialectic of nature, but only in a secondary sense. However, they all seem to agree that there is no possibility of a dialectic intrinsic to nature. Chambre (1959: 261) writes: "There is a dialectic only because man is present in nature. Because man is present in reality, there is a dialectic of nature. But, if one abstracts from this presence, the content of the natural sciences is not dialectical". Marcuse (1958: 143) who is one of the major advocates of a relative (rather than absolute) existence of a dialectic in nature, points out that Soviet philosophy does not find dialectical materialism contradictory, because it has completely emptied and deformed the notion of dialectic. What is the meaning and the origin of this deformation? To grasp this and to fully understand the real meaning of the dialectic in Soviet usage, one must briefly go back to Marx and Hegel.

a. The Marxian and Hegelian Dialectic

Marcuse argues (*ibid*.: 138-140), and we agree with his views, that Marx worked out his dialectic to provide a conceptual tool for the understanding of an intrinsically antagonistic society. His dialectic was to reproduce in theory the essence of reality. In order to fulfill this purpose, the traditional categories had to be redefined as they concealed rather than revealed the true state of reality. However, the dialectical relation between the structure of reality and that of thought is more than mere reflection or correspondence. If Hegel did not differentiate between thought and its object, it is because he assumed a true identity between them. For him, both thought and its object have a common denominator which, itself real, constitutes the essence of thought as well as its object. This common denominator is Reason, which for Hegel, is the telos of all being. For him, it is the structure whereby all modes of being, whether subjective or objective, are modes of self-realisation in an ever more conscious form, from the blind process of inanimate nature to the free realisation of man in history. Constituting the logos of all being, Reason is as much subjective as it is objective. Its dialectical nature resides in the realisation which happens through the resolution of contradictions which define the different modes of being. In this sense, being, in its essence, is a process of comprehending, a process in which an object becomes what it is through constituting itself (as this specific object) in and against the different conditions of its existence. Because of this process, existence is comprehending, the object becomes subject, and "comprehending", the "notion", becomes the essential reality of being. The highest mode of an existence common to all being is self-conscious thinking, and the movement of thought itself is the most general and the highest mode of the movement of all being.

Thus, with Hegel, the order of the universe, whether nature, society or history, is simultaneously logical and ontological, a comprehending and comprehended order. The unity of the subjective and the objective is attained through the struggle against hostile conditions. This struggle becomes a self-conscious mode of existence in the human being, whereupon the dialectical process becomes the historical process in which theory and practice unite.

The Marxian, materialist inversion of Hegel's dialectic remains committed to history in this sense that the motive forces behind the historical process are conflicts and contradictions which constitute the logos of history as one of alienation. According to Marx, the very laws which govern the progress of the system are at once self-defeating: The free wage contract and the just exchange of equivalents generate inequality and exploitation; the capitalist realisation of equality, freedom and justice turn them into their opposites (Marx, Capital, Vol. 1, Chapter 4). As with Hegel, the process of liberation for Marx constitutes the objective dynamic of reality, a dynamic which is the realisation of the free subject which now finds its historical form and task, that of the proletariat. As a politico-historical process, the Marxian dialectic is also a cognitive process: The class consciousness of the proletariat is a major factor within the objective dynamic of liberation.

b. The Fate of the Dialectic in Soviet Usage

Having briefly traced the dialectic to its origin, namely to Hegel and Marx, it is now easier to fully grasp the change it underwent in Soviet Marxism. Marcuse (p. 141) remarks that here, "the logos of dialectic is no longer that of liberation, neither in Hegel's ontological, nor in Marx's historical sense". He adds, and we are in agreement with him, that this is a natural and inevitable consequence, once the dialectic is no longer focused on the contradictions of class society but extrapolated beyond them, and transformed into a general "scientific world outlook" and an abstract theory of knowledge.

This is not to say that Soviets have cut the connections between dialectics and society altogether; this is far from true. We have shown, in dealing with the laws of the dialectic what the Soviets have to say about the workings of these laws in the field of social theory. It seems however, that this extension to the analysis of the history of society of the dialectical laws rings hollow, especially when such "corrections" are introduced in the laws of the dialectics, such as for instance, the notion of antagonistic versus non-antagonistic contradictions, and that of sudden versus gradual leaps. It seems that these modifications brought about in the laws of the dialectic, and in the very concept of law itself, in order to accommodate the special tactics of the Soviet regime, break down the validity of these very laws even as strictly ontological laws. The fact is that although the dialectic is to pertain to the proletariat and the Communist Party as Engels remarked in his Dialectics of Nature, the connection is no longer apparent in the Soviet system. The function of the dialectic under this system is completely altered. Marcuse remarks (ibid.: 142) that there is no Marxian theory which could be meaningfully called a world outlook for post-capitalist societies, whether they be socialist or not; "the essentially historical character of Marxian theory precludes unhistorical generalisations". When the Soviets apply the dialectic into nature in the form of universal laws, the result is that the dialectic is stripped of its historical logos. The further endeavour to reapply the dialectical laws to historical materialism, at once loosens their validity even as ontological laws. Although historical in origin (Marx), the laws of the dialectic lose in precision (when applied to history) what they have gained in precision (relatively speaking) as ontological assumptions. (The result is a great vagueness in terms, a lack of exactness, and a constant juxtaposition between the "soi -disant" "dialectical" and "metaphysical" or "mechanist" thinking.) The reason for this paradox lies in the fact, that having treated the dialectic "as such", outside of its historical logos, it becomes an empty shell, which, brought back to its original element, still remains an empty shell; a paradox which brings us back to the problem of the applicability of the dialectic in nature.

It is worth noting that even when Engels gave his famous definition of the dialectic as "the science of the general laws of motion and development of nature, human society and thought" (Anti-Dühring) he noted that nature as well as society are "phases of historical development", and that the laws of dialectic are abstracted from their history. In such an abstraction, they could be put forth as a series of general assumptions, categories and conclusions, "but the general scheme immediately cancels itself, for its categories come to life only in their historical concretion" (Marcuse: 143). As Marcuse rightly pointed out, if the Marxian dialectic in its conceptual essence, is a dialectic of the historical reality, it follows that it would include nature as long as the latter is itself part of historical reality between nature and man, and the exploitation and domination of nature; "but precisely in so far as nature is investigated in abstraction from these historical relations, as in natural science, it seems to lie outside the realm of dialectic" (ibid.: 144). It is no longer surprising, then, that Engels' Dialectics of Nature is a constantly quoted authority for the exposition of the dialectic in Soviet writings. Indeed, if the dialectic provides the only true "scientific world outlook", and if it is immanent, then the dialectical concepts and categories must be best validated in the most scientific of all sciences, that of nature. The consequence is not only a deemphasis of history, but also a lack of exactness, a vagueness which permeates all the concepts dealt with by the dialectic, which are no less expressed in a most dogmatic fashion, presented as the last word of truth, and repeated in a uniform style in all the Soviet writings on the topic. We have had numerous occasions throughout this work to demonstrate this fact which conceals its true raison-d'être, one which is ideological in nature, not only in the strict sense of partisanship, but also in the sense of Lenin's endeavour in defining the concept of matter in such a way as to safeguard the relationship between philosophy and science through ideology.

B. Soviet Dialectic and the Stabilisation of the Established Régime

We have pointed out to the fact that the dialectic in Soviet Marxism is petrified into a universal world outlook in which the historical process appears as a natural process with objective laws governing capitalist as well as socialist society. Perhaps the weakness of the dialectic when applied to social theory in Soviet

Marxism is due to this naturalisation of history, an operation alien to the very nature of history which is, in essence, an ever changing process.

Moreover, it seems that the Soviet Marxist treatment of the dialectic tends to preserve and justify the established régime, by correcting or modifying all these elements of the dialectic which would point to progress of the socio-historical development over and beyond this system, and, in Marcuse's view (ibid.: 155) over and beyond a qualitatively higher form of socialism; "Soviet Marxism would represent the 'arresting' of dialectic in the interest of the prevailing state of affairs -the ideology would follow the arresting of socialism in reality" (ibid.).

The preservation of the established state of affairs is best revealed through the introduction in Soviet Marxism of the distinction between antagonistic and non-antagonistic contradictions. The state is assigned the historical task of solving the non-antagonistic contradictions proper of socialism through criticism and self-criticism, thus precluding the need for another revolution. Marcuse notes that the fate of the dialectic in Soviet Marxism indicates the historical substance of Soviet society: "It is not the negation of capitalism, but it partakes, in a decisive aspect, of the function of capitalism, namely, in the industrial development of the productive forces under separation of the control of production from the immediate producers" (ibid.: 150). But while partaking in the function of capitalism, Soviet society does so on a new economic foundation expressed in total nationalisation of the means of production.

While it is not the purpose of this work to analyse the socio-political direction the Soviet system is taking, it is of interest to us to note the changes and developments brought about in dialectical materialism in view of accommodating new ideological needs. The discussions which took place in Soviet philosophy over formal and dialectical logic, and the decisions taken as a result of these discussions, were due, for instance, to the attempted transition in the Soviet Union, from the first to the second phase of socialism. This will be taken up in the next chapter. Moreover, in Part Two of this work, we will show the correlations between changes brought about in psychological theory and the ideological motives behind these changes. It is in this field that the relationship between philosophy (dialectical materialism), science (psychology) and ideology could be best exemplified.

C. Laws of the Dialectic

It is noteworthy to remark that the concepts of the law of the unity and struggle of opposites are rather inexactly formulated and lack precision and quality in

Soviet writings. The main concept, namely, that of contradiction, designates too broad a variety of relationships. We are not really told what dialectical contradictions really are. No precise definition is given. Guy Planty Bonjour (1967: 119) rightly commented that "in Marxist usage 'dialectical contradiction' is very close to the notion of active, potential principles which come to be thanks to the relation and the tension they exert on each other".

Moreover, it remains unclear whether motion is the result of contradiction, or whether it encompasses contradiction itself. It is claimed that motion comes about through the emergence of opposite aspects in a given body, as a result of which a struggle arises, which causes a conflict resolved by a qualitative change in the object, owing to the struggle of opposites within it. Here, it seems that the change in the object is a result of the contradiction in it. However, the emergence of internal oppositions and their friction to the point of conflict is itself a case of motion, a case of change, since motion is such a broad term as to include change in general. We are not told however, what, in turn the origin of this motion is.

In general we are facing some questions which Soviet dialectical materialism does not seem to answer: Does the contradiction which exists in all levels of reality result in fundamental changes whether it occurs in inorganic nature, organic nature or social life? When we are told that the meaning of the word contradiction is to be taken less literally with inorganic life, we are left with a superficial and incomplete picture of the problem. Moreover, such pairs of terms as identity-unity; contrary-contradictory, are not well differentiated and seem to be used interchangeably. An exact definition of terms would help clarity, if the Soviets want to retain the various concepts used in explaining this law.

The notion of non-antagonistic contradictions occurring under socialism is questionable indeed, be it only for the reason that it does not account for the subjective attitudes towards communism in the Soviet Union. If a number of individuals are opposed to communism in the Soviet Union, then antagonistic contradictions are bound to occur. But this is only an example, and one should not forget that socialism took its stem precisely from capitalism and is thereby bound to inherit some of its "antagonistic contradictions". The ideological purport behind this differentiation in the notion of contradiction in Soviet dialectical materialism is very obvious, as we noted above.

In connection with the concepts put forward in the law of transformation of quantity into quality, it seems that the notion of "qualitative change" is vague and encompasses too broad a scope of phenomena. Given that the transformation which occurs to water becoming steam at the nodal point of 100° centigrade, it would not follow from this that vital changes, as are involved in the emergence of consciousness could be accounted for in the same way. In the first instance, the qualitative change occurs within the same range of inorganic matter, whereas in the second instance it is a question of transition from a lower to a higher order of reality. The notion of leap is not sufficient in explaining the changes which occur across different levels of matter. One needs a quantum jump which the notion of leap fails to provide, in order to explain the essential differences between inorganic matter, organic matter, and higher forms of organised matter. Moreover, and as a consequence of this failure, we are not told exactly why novelty emerges by way of a leap, and especially why it emerges when it does, and why the first quality is within certain limits indifferent to quantitative changes.

Gustav Wetter (1959: 331) rightly pointed out in this context, that dialectical materialism ought to distinguish between the notions of qualitative and essential changes.

Another point we want to raise here is the emasculation of the notion of leap concretised in the distinction made between sudden and gradual leaps, the first occurring under capitalism in the form of social revolutions, and the second being characteristic of socialist societies. In point of fact, having ceased to mean an explosion, the leap loses its character by taking the form of a gradual transition and has of a leap just the name, rather than the meaning.

The ideological motives which led Stalin and his followers to safeguard the existing Soviet system by distinguishing between "evolution" and "revolution" with the former bearing the character of continuity rather than sudden breaks, impairs the law of the transition from quantity into quality. As soon as this law is rectified in favour of social development, it loses its validity at once as an ontological law of being as well.

The law of the negation of the negation is supposed to provide an explanation for a development in the form of a link which preserves the positive content of the negated element on the one hand, witnessing a seeming reversion to the starting point. Guy Planty-Bonjour (p. 138-139) has raised the criticism that this law cannot be an objective law of the world, despite the Soviets' claim to the contrary. According to him, this law is only a reflection of the other laws in the mind, and as such, it loses its specificity if applied to being (matter), being nothing other than an epistemological law, and not an objective one. Another related criticism concerning the law of the negation of the negation pertains to its universality. Every change does not always imply the coming to be of a being of a higher ontological level. In this case, many changes could not be accounted for by this law. Moreover the new is not always qualitatively superior to the old. The concepts of movement, change and development which are not differentiated in Soviet writings, do not mean the same thing; change adds to the concept of movement the notion of internal modification, and development implies the idea of progress absent in that of change. The claim to universality with which the Soviets endow this law (and the two other dialectical laws) is not really justified. Even Lenin himself noted that "there is nothing surprising if the development of some social phenomenon sometimes follows the Hegelian schema: thesis-negation-negation of negation because, ordinarily, this also often happens in nature" (Quoted by Bonjour: 139). Here the Soviets are faithful to their Hegelian heritage, introducing in nature categories which were meant by Hegel as categories of dialectical reason.

CHAPTER IV

LOGIC AND THEORY OF KNOWLEDGE

Introduction

"The Great Basic Question of All Philosophy" with which we started our account of dialectical materialism, namely the question of the relation of thought to being, spirit to nature, was formulated by Engels in a dual form. The first aspect has to do with the priority of being (matter) over spirit (thought or consciousness) and has, so far, occupied our discussions. The second aspect, as Engels and dialectical materialism put it, concerns the knowability of the world, that is, whether our thought is capable of apprehending the real world and whether our concepts and ideas present a faithful image of reality. These questions are dealt with by logic and epistemology (theory of knowledge).

Logic pertains to the forms of thought, to the internal structure and necessary interconnections of its subject matter. As to the theory of knowledge, it deals with the relation of thought to its object. Thus, whereas logic is concerned with the validity of thought, epistemology studies its truth. The underpinnings with which contemporary Soviet thought has attempted to shore up the essence of the theory of knowledge could be broken down into three component affirmations:

1. Thought is a reflection of being
2. The subjective dialectic reflects the objective dialectic
3. The laws of being are the laws of thought.

The first statement is the expression of the fundamental transcendentist epistemological standpoint of Lenin and contemporary Soviet philosophy. The third affirmation, namely, that the laws of being are the laws of thought, gives expression to the materialist monist view adopted by dialectical materialism. As to the second statement, namely, that the subjective dialectic reflects the objective dialectic, it forms the pivotal point of contemporary Soviet theory of knowledge and dialectical logic. The reason for this is that it forms the link between the two other claims. In reference to the first, it specifies the two terms of the cognitive relation; in reference to the second, it provides the required fundamental unity. Thus, it succeeds in establishing the unity of the ontological side of the basic question (dialectic) and its epistemological side (logic and theory of knowledge).

The objective dialectic is reality as "dialectically constituted matter". It is reflected in the "subjective" dialectic, namely consciousness and thought. This poses the problem of the meaning of the word "dialectic" in reference to the subjective dialectic. It seems that, as Soviet philosophy views it, thought is dialectical in two ways: First of all, both the knower and the act of knowing belong to the same real world (objective dialectic); hence, the act ~~of~~ knowing obeys the three basic dialectical laws. In other words, human thought is an epiphenomenon of matter in the same title as the other forms of reflection. As such, it necessarily conforms to the laws of matter. This is Lenin's position in his Philosophical Notebooks which present-day Soviet philosophy has adopted after, however, a neglect of nearly thirty years. The other sense in which thought is dialectical, - and this is Lenin's more primitive position advocated in Materialism and Empirio-Criticism - is that the subjective dialectic is dialectical because it reflects dialectically construed matter. In this view, the emphasis is not on the process of thought which is dialectical because it is the activity of a dialectical real being, but rather, the emphasis is on the end product of thought, whether sensual or rational. This position has by no means disappeared from the arsenal of Soviet theory of knowledge. On the contrary, it coexists side by side with Lenin's more dialectical position expressed in his Philosophical Notebooks. In any case, it is still heavily stressed in Soviet presentations of the concept of matter and the basis of philosophical materialism, as we saw above.[1]

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[1] See Chapter II.

In this chapter, we will briefly present the main tenets of dialectical logic and theory of knowledge of Soviet philosophy. Before proceeding with our exposition, however, we will briefly deal with the thesis responsible for establishing the connection between the two aspects of Engels' basic question of philosophy. At the end of the chapter, we will provide some critical comments on the major theses of dialectical logic and theory of knowledge of dialectical materialism.

The Unity of Objective and Subjective Dialectic

According to dialectical materialism, matter is primary and thought is a product of matter, a subjective reflection of what exists objectively. Engels advanced against Hegel the objection that the dialectic he detected in nature and history was a poor copy of reality. He set himself along with Marx, the task of placing Hegel's dialectic on its head. The result was, according to his own words in Ludwig Feuerbach, that "dialectics reduced itself to the science of the general laws of motion, both of the external world and of human thought - two sets of laws which are identical in substance, but differ in their expression".

For contemporary Soviet philosophy, likewise, the subjective dialectic, namely the development of our thought, is a reflection of the objective dialectic which is expressed in the development of nature and society (Soviet Encylopedia, 1970, Vol. 8: 186). The subjective dialectic of human knowing and the objective dialectic of reality are related as copy to original. In the words of the Soviet Encyclopedia (ibid.):

> In emphasising the unity of subjective and objective dialectic, dialectical materialism has noted that dialectic exists in objective reality, whereas subjective dialectic is the reflection of the objective dialectic. The dialectic of things reflects the dialectic of ideas, rather than the reverse.

In case of Hegel, this close association or, rather, coincidence of dialectic and epistemology is easy to understand, as for Hegel, thought and being are identical, which means that the dialectical unfolding of the Idea not only reflects the inner structuring of being, but actually is being itself. In dialectical materialism, however, this unity of thought and being is split into the duality of an objective and subjective level of reality. However, if the subjective dialectic mirrors the objective dialectic as Soviets believe, where is the guarantee then, that this mirroring will be a faithful picture of the objective world? Faithful to Engels, Soviet dialectical materialism finds such a guarantee in the assertion that the same dialectical laws of development which operate in nature also operate in the process of human knowledge and thought. In the words of Rozenthal and Judin in

The Dictionary of Philosophy: "Scientific dialectics organically combine the laws governing the development of being and the laws of cognition, these two being identical, and differing in form only" (p. 122).

This unity or coincidence of ontological and epistemological laws which set the ground for Engels and after him Soviet philosophers' definition of the dialectic as "the science of the general laws of motion and development of nature, society and thought" is expressed in the Soviet Encyclopedia in the following terms: "Dialectical materialism proceeds from the assertion of the unity of the laws of being and of thought" (1970, Vol. 8: 190), which means that "every universal law of development of the objective and the spiritual world, is, in a certain sense, a law of cognition as well" (ibid.).

Now, dialectical logic is this logical teaching belonging to Marxist-Leninist philosophy which investigates these cognitive functions pertaining to the general laws and categories of development (Dictionary of Philosophy: 248). Needless to say, a logic which is founded on the premise of coincidence and unity of objective and subjective realms will obviously show characteristics akin to both ontology and epistemology.

1. Dialectical Logic

A. Definition

In the Soviet Encyclopedia (1970, Vol. 8: 187), as well as in the Philosophical Encyclopedia (p. 75) dialectical logic is defined in the same way as the dialectic, namely, as the science about the most general laws of development of nature, society, and thought. These laws are the three basic laws of the dialectic (dealt with in the previous Chapter) which in Soviet parlance also express general concepts called categories (see previous Chapter) and which are referred to in the Philosophical Encyclopedia (p. 94) as laws of dialectical logic as well. The Soviet Encyclopedia (1970, Vol. 8: 187) states that "dialectical logic can be defined as the science of dialectical categories". In the Dictionary of Philosophy (p. 248), a variation of this definition is given. Dialectical logic is defined as the logical teaching of dialectical materialism, and the science of the laws and forms of the mental reflection of the outside world as well as the laws governing the cognition of truth.

These two definitions would seem in apparent contradiction if one disregarded the basic thesis of dialectical materialism (explained above) on the reflection in the subjective dialectic of the objective dialectic. Dialectical logic, by virtue of its function, is also said to "combine the teaching on being with the teaching on its reflection in the mind (Dictionary of Philosophy: 248). This assimilation of the ontological and epistemological dimension is a characteristic of Marxist-Leninist philosophy as we have seen in the previous Chapters, and is given open expression in Soviet writings. It is such a major component of this philosophy that some Soviet authors claim that when known, the laws of nature become like logical laws which act as methodological guidelines for further acts of knowing and influencing the objective world (Philosophical Encyclopedia: 95). In this context, Bogomolov (ibid.) quotes Lenin's words in the Philosophical Notebooks that the laws of logic are the reflection of the Objective in the Subjective consciousness of man.

To give a single definition of dialectical logic, thereby assigning this discipline a specific place in Soviet philosophical system would be a difficult endeavour. The problem is made even more complicated when we consider the thesis on the coincidence of dialectic, logic and theory of knowledge proper to dialectical materialism, and which we shall shortly consider. For the moment we can note that dialectical logic, in its definition and functions overlaps with other branches of Soviet philosophy to an extent which often results in a great confusion. For instance, not only is dialectical logic defined in the same way as dialectic, following the lead of Lenin in his Philosophical Notebooks, but also dialectical materialism (Soviet Encyclopedia, 1970, Vol. 8: 187), philosophy (Dictionary of Philosophy: 340) and Marxism Leninism (Soviet Encyclopedia, 1974, Vol. 15:520) share the definition both dialectic and dialectical logic have in common. Is one to conclude, then, that dialectical logic could interchangeably bear this title and that of dialectical materialism, dialectic or even Marxism-Leninism? In the Philosophical Encyclopedia (p. 100) we read: "All the theses of dialectical materialism, i.e., of dialectical logic have the role of methodological principles relative to the investigation of the concrete object; they form a true norm for knowledge".

The above quotation establishes three points:

1. Dialectical materialism and dialectical logic are one and the same; one could read "dialectical logic" and think "dialectical materialism" and vice-versa.
2. Dialectical logic constitutes a theory of knowledge
3. Dialectical logic serves as a method of investigation of reality.

(1) and (2) pose the problem of where to fit dialectical logic in the intricate system of Soviet thought. As to (3), namely, the methodological aspect of dialectical logic, we will devote some attention to it below. In the Dictionary of Philosophy (p. 276), we read:

> Dialectical materialism combines the teaching on being, or the objective world, and the teaching on its reflection in the human mind, thus constituting a theory of knowledge and logic.

Here the thought is expressed that dialectical materialism is a theory of knowledge and a dialectical logic in one and the same time. But we know that the object of dialectical materialism is the general laws of development, namely, the three laws of the dialectic which operate in being and thought alike. Through the assimilation of the epistemological and the ontological spheres of reality, the famous Leninist thesis on the coincidence of dialectic, logic and theory of knowledge is best given expression.

B. The Unity or Coincidence of Dialectic, Logic and Theory of Knowledge

According to dialectical materialism, as we have had numerous occasions to point out, "the approach to the fundamental question of philosophy is the point of departure in epistemology" (Dictionary of Philosophy: 144). Matter is thus considered primary and thought is a product of matter. As the whole of reality, including matter and its products, is subject in its development to the three laws of the dialectic, a correct reflection of matter in cognition would bear the same "dialectical" character which characterises the object of reflection: "Inasmuch as the world is in constant motion and development, the forms of thought and the concepts and categories, too, should be based on the principles of development" (ibid.). In this view, the laws of being are also laws of thought, and "cognition is governed by the universal laws revealed by materialist dialectics" (Fundamentals, 1963: 91), with the latter being at once a logic and a theory of knowledge (Dictionary of Philosophy: 382). In the Soviet Encyclopedia (1970, Vol. 8: 187) we read that "in Marxist-Leninist philosophy, dialectical logic is identical with dialectic, with theory of knowledge, and with dialectical materialism".

Both by adhering to the unity of logic and being, and by espousing the thesis on the unity of knowledge and being, this theory is certainly Hegelian. It is held by all contemporary Soviet philosophers with slight differences in interpretation.

In fact this was also Lenin's position in his Philosophical Notebooks, one to which Soviet philosophy has fallen heir. In "On the Dialectic", Lenin says: "The dialectic precisely is the theory of knowledge (of Hegel and) Marxism" (Philosophical Notebooks: 362). Recognising the Hegelian origin of this thesis, he adds:

> In Capital, Marx applied to a single science logic, dialectics and the theory of knowledge of materialism

> (three words are not needed: It is one and the saem thing) which has taken everything valuable in Hegel and developed it further.
>
> (ibid.: 319).

In fact, in the philosophy of Hegel, logic and dialectic immediately coincide, because for him, the Absolute is the Idea, in which "being is in itself knowledge of being" (Quoted by Bonjour: 60). Knowledge is not posterior to being, and the science of the Absolute becomes at once both logic and ontology. The dialectical unfolding of the categories in Hegel's Science of Logic is at the same time an expression of the process of self-development in the Absolute itself. That in Hegel, epistemology also coincides with dialectic, or logic, is due to his belief that the process whereby the Absolute Idea unfolds itself in the categories is also the process whereby it seizes knowledge of itself. Thus, when Hegel explains how the Absolute Idea attains self-knowledge, he is providing in a simultaneous manner a solution to the epistemological problem as well as a justification of the authenticity of this knowledge vis à vis reality. Whether this reiteration of the Hegelian principle of the coincidence of dialectic, logic and epistemology in Soviet thought, is feasible now that Hegel has been subjected to the materialist inversion and matter has replaced the Idea, has been taken up in the critical section on the dialectic in the previous chapter.

For the moment, it is sufficient to attempt to understand this thesis within the logic of dialectical materialism itself. In fact, how is one to construe this unity of dialectic, logic and theory of knowledge to which Lenin and Soviet philosophers adhere? We already know that dialectic is the theory of the general laws of motion in reality, and therefore would fall under what one would ordinarily call an ontology. How can this dialectic be at one and the same time both logic and theory of knowledge? The answer is to be partly found, as we said before, in the thesis of the unity of subjective and objective dialectic. However, there remains an ambiguity yet to be clarified: We are not told whether dialectic, logic, and theory of knowledge merely coincide or if they are really identical. Soviet philosophers seem to use these two terms interchangeably, holding them to be synonymous. Blakely (1964: 19) has remarked that the confusion partly revolves around the precise meaning of the word "sovpadenie" (coincidence/identity) which Lenin used in defining the relationship between dialectic, logic, and theory of knowledge. The problem of "sovpadenie" as it appears in Soviet philosophy today can be formulated in the following question: Is there one philosophical science - called dialectical materialism - which has as its subject matter the totality of reality; or does dialectical materialism hold three distinct entities, namely, dialectic, as the science on the dialectical nature of being, logic, as the science of the content of thought, and theory of knowledge, as the science of the process of thought?

The crux of the problem as Blakely remarks (*ibid*.: 20) stems from a passage in the *Philosophical Notebooks* where Lenin says that "logic coincides with (Sovpadaets) the theory of knowledge". Now the Russian word "sovpadat" means to coincide; however, in ordinary usage, it also means to be identical with. Thus, if Lenin's sovpadat means to coincide, it would follow that the three sciences, namely dialectic, logic and theory of knowledge operate on the same basis, namely, the three dialectical laws, and that they overlap as to some essentials (laws and categories), but differ as to others (mode of procedure, fields of application, etc.). In the *Philosophical Encyclopedia*, we find the following statement which illustrates the attitude of Soviet philosophy on the problem:

> Among Soviet philosophers there are two points of view on the interpretation of Lenin's statement. Some say that Lenin had in mind the identity of dialectic, logic, and theory of knowledge. Others maintain that Lenin had in mind the unity of dialectic, logic, and theory of knowledge.
> (Quoted by Blakeley, 1964: 28).

The Russian references we came across (as for instance, the *Soviet Encyclopedia*) as recent as 1974 seem to favor the identity position, as is apparent from the statement quoted at the beginning of this section. However, it could very well be that identity and coincidence are taken to be the same. This question could, if not be clarified, at least be seen in a more concrete way if we consider the place of dialectical logic in the system of Soviet philosophy.

C. The Place of Dialectical Logic in Soviet Philosophy

In the Philosophical Encyclopedia (p. 93-94), Bogomolov states three different points of view held by Soviet philosophers on this problem. Thus, it is said that the viewpoint of M.M. Rozenthal, E.P. Sitkovskij, and I.S. Narskij is that dialectical logic does not exist outside of the dialectic, which, as the science of the most general laws of the development of nature, society and human thought, is also the logic of Marxism-Leninism:

> Dialectical logic has to be seen not as something different from the dialectical method, but as one of its most important sides and aspects, namely, the side which asks what human thought, concepts, judgments, etc.., have to be like so that they will reflect the movement, development and change of the objective world. (ibid.).

Another viewpoint, Bogomolov states, is that dialectical logic is part of the theory of knowledge which is part of the dialectic. In this respect, V.P. Rozin's words are quoted:

> The object of dialectical logic is part of the object of the Marxist theory of knowledge and of the dialectic.... In turn, the theory of knowledge is part of the object of the materialist dialectic.
> (_ibid_.).

As to B.M. Kedrov, he is said to hold the view that dialectical logic is the logical aspect or the logical function of the dialectic; that in essence, it coincides not just with the dialectic of knowledge, i.e., the subjective dialectic, but also with the dialectic of the outside world, i.e., the objective dialectic. At the same time, Kedrov asserts that the object or problem area of dialectical logic is different from that of the dialectic, a difference conditioned by the fact that dialectical logic is a special form of thought, where the connections of the objective world are reflected in a special way (_ibid_.).

We can see that out of the three positions just outlined, two of them, namely those represented by V.P. Rozin and B.M. Kedrov advocate the coincidence thesis, whereas Rozenthal et.al. are in favour of the identity position. This was the situation in the sixties. We have reasons to believe that the seventies witnessed a more strict adherence to the identity position, and this for the reason that the third edition of the _Soviet Encyclopedia_ published in the early seventies and which we have been using here, promotes this position as shown from an above quoted statement taken from it. There is yet another aspect to this problem, again concerning dialectical logic. According to Lenin's pronouncement, already referred to, dialectics is supposed to coincide, not just with epistemology, but also with logic. The question which confronted Soviet philosophy was to what sort of logic is dialectic to be assimilated: To the customary, traditional formal logic of Aristotle, or to a new dialectical logic?

D. Formal and Dialectical Logic

In the nineteen thirties, the question of choice between formal and dialectical logic was easily settled in favour of the dialectical one. Formal logic was dismissed as metaphysical and Lenin was abundantly quoted: "The law of identity, A = A, is empty, 'unbearable'" (Philosophical Notebooks). For thirty years, Soviet philosophy thought that formal logic, because of its laws of non-contradiction and excluded middle, was diametrically opposed to the laws of the dialectic. In fact, while dialectical logic saw in the unity of opposites the possibility of inclusion of both identity and contradiction, formal logic held that a thing can be either A or not A, without a third possibility. Thus, up to 1946, there was only one logic in the Soviet Union, namely, the dialectical. In November 1946, however a radical reversal of attitude occurred. In fact, by a decree of the Central Committee of the Bolshevik Party, formal logic was reintroduced into secondary schools (Wetter, 1959: 525). Numerous attempts were made between 1946 and 1950 to produce textbooks of formal logic, because of the hasty need for them. However, most of them were criticised and soon rejected. The Ministry of Education even confiscated a collection of essays on logic (*ibid.*) and N.I. Kondakov's *Principles of Logic* was actually dissected in detail. In the hope of reaching a final conclusion, a discussion was opened in 1950, by *Voprosy Filosofii*. At this point, Stalin published his letters on "Marxisms and Questions of Linguistics". In these letters, he stated that language belongs neither to base nor to superstructure, because it remains the same even though the superstructure changes, and because it is not linked with production through the economic base, as superstructure is.

The logicians used Stalin's declarations to show that logic, being the science of exact language, is not, therefore, linked to a class. The attempt was made since that time to complement formal logic with a dialectical one, owing to Lenin's injunctions whereby dialectic had to rank as a logic as well. The official Soviet view at the present holds that both formal and dialectical logic have their rights to existence. Formal logic is said to study the simplest types of intellectual processes, reflecting thereby the most elementary relationships among things, as well as their relative stability. However, because of its view of contradictions as incompatible opposites, and due to the fact that it does not study the historical development of knowledge in all its contradictions, formal logic "cannot replace dialectical logic but only limits it" (Philosophical Encyclopedia: 22). The formal logical laws are said to be "insufficient for scientific knowledge which is spontaneously guided by the materialist dialectic" (ibid.). The following statement illustrates the distinctions held in Soviet thought between the two types of logic:

> While dialectical logic is the theory of the emergence and the historical development of the logical forms of thought in unity with their content ..., formal logic abstracts from the historical development of thought, treating it as something given and fixed in isolation from contradiction and movement.
>
> (ibid.).

The main business of dialectical logic is to provide a system of thought congruent with a world of becoming and change. Here it is assumed that formal logic, owing to the rigidity of its concepts as well as its adherence to the law of non-contradiction cannot fulfill this task.

E. The Principles and Tasks of Dialectical Logic

The nature of dialectical logic in Soviet dialectical materialism wants it to be concerned, in its major task, with the "examination of the process of coming into being and the development of cognition itself" (Dictionary of Philosophy: 248). The structure of dialectical logic, as expressed in the Philosophical Encyclopedia (p. 99) reflects the real picture of the development of human cognition, namely, the process of its movement from the immediate being to the essence of things.

Because of its ontological foundation, which ties the concern of dialectical logic with the study of reality as well as of thought, the immediate and most basic task of this discipline is said to investigate how best to express in human concepts, motion, development and the internal contradictions of phenomena, as well as their qualitative changes and their transformation into each other. This opinion is expressed in the Dictionary of Philosophy (p. 248) and seems to constitute a unanimous attitude amongst Soviet philosophers. In the Philosophical Encyclopedia, for instance, Spirkin (p. 22) is of the opinion that "the task of dialectical logic is to study how the dialectic of being (nature and society) is reflected in the dialectic of thought and how motion, development, etc.., are expressed in a logic of concepts and categories". This is the ontological side of dialectical logic which makes it the "analog of reality" and which is foreign to the usual concept of logic. But there is yet another side to this ontological premise, one which is no less important in the characterisation of the principles of dialectical logic in Soviet thought. Lenin had expressed the thought that "the dialectic is in essence the historical process" (Philosophical Notebooks). According to Lenin, the dialectic is the doctrine of development in its deepest, fullest and most comprehensive form (ibid.). As development always takes place in time, dialectical logic, if it is to achieve its task, has to use the generalisations of the history of science, philosophy and technology, including "the history of language, psychology, and the physiology of the sense organs" (Philosophical Encyclopedia: 75; Soviet Encyclopedia, 1970, Vol. 8: 187). This procedure allows dialectical logic to sum up the logical forms and laws of scientific knowledge, as well as the laws of development of scientific theory. In this sense, dialectical logic is considered to be a historical logic and a logic of development (Philosophical Encyclopedia: 96). The history of philosophy, which likewise sums up the achievements of systems of ideas through the ages, is said to be tightly linked with dialectical logic. While the latter studies the sequential development of abstract logical concepts, the former has as its object, the study of the sequential development of these very concepts in the concrete form of philosophical concepts which supplant each other. While the history of philosophy shows to dialectical logic the sequence in the development of categories, dialectical logic, in its turn, reflects the objective sequence of the development of real historical processes "cleansed from contingency and without essential zigzags" (ibid.: 75). In this line, Bogomolov (ibid.: 75-76) declares:

> Dialectical logic is a complete but by no means closed system: it develops and is enriched according to the development of the phenomena of the objective world and along with the progress of human knowledge.

This question will be taken up shortly in our discussion of the logical and the historical in the dialectical materialist theory of knowledge. It is worth mentioning that by its discovery of the laws of development, dialectical logic is said, not only to provide the foundation of a scientific knowledge of the past, but also to provide the wherewithal for a scientific prediction of future developments. The possibility of scientific prediction is based on knowledge of the laws of development, but above all, on knowledge of the fact that events repeat themselves, which as we saw in the discussion of the law of the negation of the negation, is an important law of development. Since a law exhibits some invariance or universality, it can give expression to the future situation emerging from present tendencies of development, as well as from what already was the case.

The Soviets do not tire to repeat that the main principle of dialectical logic consists in the assertion of the universal connections and interconnections of phenomena, and of their development which occurs through contradiction (_ibid_.: 95). "It is a principle which requires that the object be studied in development", for, "within certain limits and in concrete content, development is history" (_ibid_.: 96). This is the viewpoint expressed in the _Philosophical Encyclopedia_, and which is echoed in the _Soviet Encyclopedia_ (1970, Vol. 8: 196): "The principle of the universal interconnections of phenomena was designated by Lenin as one of the basic principles of the dialectic". In Soviet writings, this principle is accompanied by some psychologistic recommendations, such as: "In order to genuinely know an object, one must seize it and study it from all its sides, with all its interconnections" (_ibid_.). But here we are closer to methodology which offers a faithful image of dialectical logic, in that it provides the "applied" version of what is termed logic in dialectical materialism. For, apart from its ontological foundation, dialectical methodology is considered to be "an application of dialectical logic to methodology of science" (Boeselager, 1967: 94). Because the Marxist dialectical method is held to be universal, that is, that whatever is known is known through the three dialectical laws, the ontological premise on which it is built must also be universal. All of reality belongs to the objective dialectic, including thought and its content. Boeselager (1967: 99) expresses this thought in the following manner: "Keeping the ontological premises of dialectical logic in mind makes it easier to understand the specific dialectical methodology."

F. The Marxist Dialectical Method and its Epistemological Significance

Methodology as that branch of logic which studies the know-how of scientific investigations could be divided into two sections: General methodology which occupies itself with problems shared by a large number of methods, and the various specific methodologies which investigate the methods utilised in one or in a collection of special sciences. Contemporary Soviet philosophy makes a similar distinction with, however, certain differences. In the Philosophical Encyclopedia, B.M. Kedrov and A. Spirkin express the typical Soviet view on the question. According to them, general methods affect all sciences and any object, whereas particular methods are used in all the sections of science, but only for the study of specific aspects of its objects. They are called particular because, even though they bear certain general character which does not restrict them to one form of the movement of matter, each of them has to do with just one aspect of reality (appearance, essence, etc...). The methods of analogy, formalisation, mathematisation, and modelling belong here (Philosophical Encyclopedia: 126-128). Kedrov and Spirkin (ibid.: 129) further distinguish what they call specific methods which are involved with "the specific character of special forms of the movement of matter". This implies that these methods would be of relevance only within a special branch of science. The methods pertinent to geophysical, biophysical, and chemophysical phenomena belong here (ibid.), and include observation, experiment, comparison, and its special case, measurement, as well as mathematical methods and procedures (Soviet Encyclopedia, 1970, Vol. 9: 361).

It is worth mentioning that in Soviet thought, the division of methodology into general and specific methods is paralleled by a similar classification of natural science into general sciences, namely, the philosophical, which study "the most general laws of all movement (the dialectic) and the specific laws of thought" (Philosophical Encyclopedia: 126), and the special sciences which study either nature or society, or their interconnection. Particular forms of investigations, far from being arbitrarily determined, are said to depend on the subject of study, with each subject requiring its own appropriate method. Similarly, the general method of investigation of reality should also correspond to the object, in this case, to the whole of reality. It would therefore not be a method belonging to any of the natural sciences, but one which belongs to philosophy. In Spirkin's terms, it is a method "involving a correct general approach to nature, one which corresponds to nature" (Spirkin, 1971: 12). The author adds that materialist dialectics, discovered by Marx and Engels, is such a method, since "it forms and contains those general requirements that are absolutely essential to a correct approach to the study of the phenomena of nature, of reality" (ibid.).

However, it is not to be thought that the dialectical method, by virtue of its belonging to philosophy, is not a scientific method. Kedrov and Spirkin specify that the essential component of scientific knowledge is the philosophical elaboration of the data of science, "providing the world-view and the methodological ground" (Philosophical Encyclopedia: 131). Those tasks which incumb on scientists, such as the generalisation and selection of facts, as well as the analysis of the process of arriving at these facts, can be achieved only through the dialectical method (ibid.). This method is said to be a general method of natural science (Soviet Encyclopedia, 1970, Vol. 9: 361; Philosophical Encyclopedia: 127), and to constitute "the only basically scientific method of investigation for contemporary science" (ibid.: Philosophical Encyclopedia).

What are the concrete expressions of the dialectical method as such? In the Soviet Encyclopedia (1970, Vol. 9: 361), it is said that such a concretisation of one aspect or another of the dialectical method manifests itself as a comparative method (in biology, geography and chemistry) where it helps to uncover general connections of phenomena. In biology, it is said to produce comparative anatomy, physiology and embryology. In natural science in general, the dialectical method is also said to emerge as a historical method, one which, when applied to geology for example, produces historical geology which uses actualist methods, and which deals with the development of the Earth and the Earth's surface. Applied to biology, it is said to produce Darwinism (ibid.).

W.F. Boesalager (p. 96) has summarised the steps and tendencies required in the use of dialectical methodology. We will briefly mention the major ones:

1. To look at scientific knowledge in a concrete (comprehensive) way without abstracting or isolating parts of it. This requires the following considerations:

a. To see science genetically, i.e., dynamically, as in development.

b. To consider the psychological side of science, i.e., to put special emphasis on abstraction, intuition and probability (in terms of subjective conviction), as well as the heuristic importance of the formulation of problems.

c. To consider science as a social, collective knowledge.

The author concludes that "all these elements of the dialectical method make it a very specific approach to science" (ibid.).

The major "steps" of dialectical methodology which contemporary Soviet philosophy hold seem to be highly reminiscent of Stalin's (see previous Chapter) two "principal features of the marxist dialectical method". First, the world has to be treated, as in a state of constant motion. This is the first "key" aspect of the dialectical method (Spirkin, 1971: 13). The second one is that the world has to be considered as an integrated whole.

The Laws of the Dialectic in Dialectical Methodology

In the Soviet Encyclopedia (1970, Vol. 8: 190), we read:

> The categories of dialectics are indissolubly linked with its laws... these laws express the universal forms of development of the material world and of cognition of it; they constitute a universal method of dialectical thinking.

Here it is undeniable that the dialectical method is built, at least partly, on ontological premises, and that it constitutes a conceptual scheme rather than a methodology. The subjective dialectic reflects the objective dialectic; through dialectical logic, the dialectical laws which make up the objective dialectic are codified in the "dialectic" and "materialism". In the 1967 Fundamentals (1963: 87) we read the following: "By revealing the most general laws of development of nature, society, and human thought dialectics provides us with a scientific method of cognition". These general laws are the three laws of the dialectic studied in the previous chapter. They are supposed to serve as "pointers" to research, exactly because they reflect the dialectical nature of reality: "Knowing how development occurs enables us to know how developing reality should be studied and what to do to change it. Herein lies the tremendous importance of dialectics for science and for the practical remodelling of the world" (ibid.).

The law of reciprocal transformation of quantitative into qualitative changes is said, for instance, to have "great methodological importance" (Soviet Encyclopedia, 1974, Vol. 19: 707) in that it obliges the scientists to investigate the object from the qualitative and quantitative points of view, so that the qualitative specificity of facts and laws are not overshadowed by the quantitative descriptions (ibid.). "The law serves as a warning against all forms of flat evolutionism or reformism, as well as against the various types of catastrophism" (_ibid_.). This conception, pertaining to the importance of the dialectical law in scientific methodology has really little to do with science itself. And despite the Soviets' claim that "knowledge of dialectics" allows the scientist, when dealing with specific problems, to "stand at the highest level of scientific methodology and the scientific world" (_ibid_.), it seems that its function in science is not so much methodological as it is ideological. This brings us back to our earlier discussions of the functions of philosophical practice in the Soviet Union, namely, that of drawing, within scientific practice, a dividing line between Marxism-Leninism and opposing tendencies. The abundance in Soviet writings of such statements as "knowledge of dialectics enables scientists to avoid errors", speaks of the ideological intent behind all such claims.

2. Theory of Knowledge

A. Main Tenets

The subject matter of the theory of knowledge is expressed in Rozenthal's _Dictionary of Philosophy_ (p. 382) in the following terms:

> Apart from the problems of the theory of knowledge, which studies the ways

> and means of man's acquiring true knowledge, the universal logical forms (categories) and laws of cognition, the Marxist theory of reflection covers the problems concerning the natural scientific basis of man's cognitive activity, the origin and essence of his consciousness and also the property of reflection in inanimate nature.

The standard official Russian textbook offers the following components in its exposition of the theory of knowledge:

1. Knowledge as the reflection of the objective world (the Leninist theory of reflection).
2. Practice as the basis and purpose of cognition.
3. The unity of theory and practice.
4. The dialectical process of cognition: From sense perceptions to abstraction, to practice.
5. Thought: Cognition of the essence of phenomena.
6. Sensations: images of things and of their properties.
7. Infinite cognition of the infinite truth.
8. The concrete nature of truth.
9. Practice, the criterion of truth.
10. The importance of the Marxist theory of knowledge for science (Fundamentals, 1963).

In our presentation of the theory of knowledge of Soviet Russian dialectical materialism, we will concern ourselves with the major tenets of this theory, namely, "The Leninist theory of reflection", "absolute and relative truth", "practice as a basis of knowledge and criterion of truth", and "the logical and the historical".

We remind the reader that we have already touched upon the Leninist theory of reflection when dealing with his concept of matter in Chapter II. Here, we will not deal with the epistemological definition of matter per se, but rather, with the ontological characteristics of the property of reflection of matter, on the one hand, and the epistemological underpinnings of the process of knowledge on the other hand.

B. The Leninist Theory of Reflection

As we have had numerous occasions to mention, the thesis that thought is "a reflection, copy, photograph" of reality is the dialectical materialist fundamental characterisation of knowledge: "A basic aspect of the epistemology of dialectical materialism consists of the materialist resolution of the question of the relationship between thought and being" (Soviet Encyclopedia, 1970, Vol. 8: 189).

Reflection, which finds its highest expression in consciousness as psychic reflection, is a property of all living organisms. Its complexity ascends as one ascends the various organic structures in nature, from the single organic cell to the formation of the human central nervous system. Some of the elementary forms of reflection are irritability, sensibility and excitability

(Philosophical Encyclopedia: 69). Irritability is defined as "the ability of all that is living to respond to external activity by accelerating or decelerating the metabolism; by changing the rate of growth, and by a spatial displacement, etc..., as a result of which there is an adaptation of the organism to the changed milieu" (Quoted by Blakeley, 1964: 31). Sensibility, which is at a higher level of evolution than irritability, is the ability to reflect different properties of things in the form of sensation, perception and the elementary intellect of man. Such is the case, for instance, with higher animals with the ability to analyse complex sets of simultaneous stimuli and to reflect them in the form of perceptions which are holistic images of the situation. The instinctual, in-born behavior as well as the individually acquired habits are found only in animals with a brain, especially in primates (Philosophical Encyclopedia: 69). The reflex constitutes the highest and most complex form of biological reflection. It is characteristic of living organisms which have a central nervous system. Reflexes are unconditioned when they are characterised by a constant connection between the stimulus on a receptor and a definite responsive reaction ensuring the adaptation of the organism to relatively stable conditions of life. This type of reflex is carried by means of the spinal cord and the lower parts of the brain.

The unconditioned reflexes form the basis for conditioned reflexes which are formed in the course of individual experience. Conditioned reflexes are produced by combining conditioned stimuli (such as light, or sound in the case of Pavlov's dogs) with an unconditioned stimulus (food, for instance) which evokes a reflex action. These reflexes are developed in man and higher animals. They are carried through the cerebral cortex, serving as a mechanism of adaptation to the complex changing conditions of the environment (Fundamentals, 1963: 36-37; Dictionary of Philosophy: 382).

Consciousness is a "product of the activity of the human brain, which is connected with the intricate complex of sensory organs" (Fundamentals, 1963: 39). It is, in essence, a reflection of the material world (ibid.) and is largely determined by the social and natural actuality which exist outside of the brain (Philosophical Encyclopedia: 17). Specifically human reflection is the work of Pavlov's second signalling system which is the ultimate stage in the evolution of the general property of reflection of matter.[2] Pavlov showed that because of his highly developed central nervous system, man has not only signals (first signalling system) but also signals of signals (second signalling system) such as words. He showed that speech being a new system of signals characteristic only of man, becomes a source of conditioned reflex activity (Fundamentals, 1963: 37-38). A word is a stimulus like any other stimulus but it also carries meaning: it signifies the meaning of the thing for the human organism, the "signal". "Language is the necessary means for coordinating the labor of the members of society; it is a means not only of social control but also of the voluntary self-control of the person, as well as the formation of conceptual thought and self-consciousness" (Philosophical Encyclopedia: 70). As to consciousness, it is in essence reflection of the material world, for it was formed in the process of work, and as such, it mainly contains nature as man has humanised it, and culture. It can emerge only as the function of a complexly organised brain which increases in complexity as a result of the structural complexity of sensory activity and social relations (ibid.).

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[2] See Part Two, Chapter III.

The Process of Knowledge as a Cognitive Act

Psychic reflection is said to have two sides: First, the content of reflection, or the image; second, the ways the influence of objects are processed in the reflectory apparatus (Dictionary of Philosophy: 381). Moreover, the content of psychic reflection is further characterised by two main features. The first is related to the isomorphic connection which exists between the imprint in the reflectory apparatus and a definite aspect of the object which exerts the influence. The second feature has to do with the property of objectivity. This means that in the content of reflection, the subject receives not the conditions of his receptors, nerves and brain, as physiological idealists claim, but the content of the objects of the external world. The objective content is directly viewed by the subject in the ideal form of reflection, i.e., in the form of an image of the object (*ibid*.). The reason, then, why true knowledge is possible, is that our cognition reflects the true reality. But this reflection should not be seen as a merely passive or mechanical reflection. Lenin, on the contrary, stresses that knowledge should not be regarded as ready-made or inalterable. The point of interest is rather to study "how knowledge emerges from ignorance, how incomplete, inexact knowledge becomes more complete and more exact" (Lenin, *Materialism and Empirico-criticism*: 98). This process, in Lenin's opinion takes place in three main stages: "From *living* perception to abstract thought *and from this to practice* - such is the dialectical path of the cognition of truth, of the cognition of objective reality" (*Philosophical Notebooks*: 171). This view is adopted in contemporary Soviet writings, and Lenin's statement (which we just quoted) in his *Philosophical*

Notebooks is often paraphrased or quoted (Spirkin, 1971: 88; Dictionary of Philosophy: 82; Fundamentals, 1963: 99).

All knowledge as dialectical materialism postulates, starts with sensation and perception, i.e., it starts at the sense level and only then rises to the level of logical, abstract thought "which transcends the limits of sensation without ever being severed from it" (Philosophical Encyclopedia: 18). Both stages are based on practice and cannot occur without it (ibid.; Dictionary of Philosophy: 81; Soviet Encyclopedia, 1970, Vol. 8: 189). "Practice is the source and basis of the formation of knowledge", and "the fundamental stimulus and goal of cognition" (ibid.: Soviet Encyclopedia). It is through language, which is involved in all the cognitive processes, that generalised knowledge, essentially derived from social practice, is included at the sense level. Man's thoughts start with and come back to sensation (Philosophical Encyclopedia: 19). There can be no absolute limits between abstract and sense knowledge. Although they are qualitatively different, they are united in one continuous process of knowledge: "The objective foundation both for the unity of and for the differences between sense-knowledge and logical knowledge is to be found in the real unity and difference in the external and internal aspects of being, in appearance and essence, in form and content, etc..." (ibid.).

Sensations bring man in touch with the external qualities of an object, without, however, allowing him the possibility of penetrating in the essence of the object. Truly, they allow man to apprehend the relationship between the external appearance of the object and its functions. However, without allowing for deeper knowledge, the data of sensations and live perceptions are processed and generalised by man's higher cognitive ability in the form of concepts, judgments and conclusions (Dictionary of Philosophy: 81). The knowledge of the essence of things embodied in abstract concepts is thus the outcome of a dialectical process which contains a two-fold dialectical transition between the object and the thought: the first leads from the object to its subjective reflection in perception and sensation; the second leads from the sensory image to the abstract concept. This raises the question on the adequacy of the reflection in the subjective dialectic (thought) of the objective dialectic. This problem is dealt with in the question of truth.

C. Absolute and Relative Truth

According to dialectical materialism, truth is a correspondence between knowledge and reality. It is "that which correctly reflects reality. If our knowledge corresponds to the objective world, then it is true." This is what Marxist philosophy means by objective truth (Spirkin, 1971: 93). In other words, objective truth does not depend on the will of the subject; rather, its objectivity is determined by the content of the object reflected (Dictionary of Philosophy: 463). As the world is infinite, knowledge itself is an infinite process. At every juncture in history, therefore, man's knowledge is not only incomplete, but it is also imperfect in the sense of its being mingled with error. Thus, throughout the last century, the wave theory of light was predominant. However, it became evident in the course of the twentieth century, that it was an incomplete and unsatisfactory theory. Consequently, it had to be supplemented with the corpuscular theory. This is only one example; incomplete and imperfect truths of this type are considered "relative" truths in dialectical materialism (ibid.: 462). In general, scientific truths are considered relative in the sense that, although containing some indestructible kernels of truth which are conserved throughout further scientific developments, they do not give an exhaustive knowledge of the subject studied, and they contain elements that will be changed and rendered more exact as knowledge advances. As to absolute truth, it is defined as a complete, exhaustive knowledge of reality and as knowledge which will not be refuted in the future. In our always relative knowledge, there exists an objectively true content which is retained in the process of cognition and which serves as a foundation for further advances in knowledge. "This intransient content in the relative truths of human knowledge is termed ... absolute truth" (Fundamentals, 1963: 105).

Absolute truths of this kind are not confined to such trivialities as "twice two is four" or "the Volga flows in the Caspian Sea". Dialectical materialism also ascribes absolute truths to such propositions as for instance, the philosophical materialist thesis on the priority of matter and the secondary nature of consciousness, as well as such theories as Darwin's theory of the evolution of organic species (ibid.: 106). Now, the term Absolute is not to be taken in the "metaphysical" sense of an eternal truth "which, once obtained, leaves one with nothing more to learn" (Spirkin, 1971: 95). Rather, dialectical materialism recognises the process of knowledge to be an infinite, never ending process, in the same way nature is infinite: "Cognition is infinite not only because the object of cognition - nature and society - is infinitely diverse, but also because cognition itself has no limits" (Fundamentals, 1963: 104).

This type of truth is said to be achieved through an accumulation of relative truths, thus allowing the gradual movement towards knowledge of all the phenomena and laws of nature: "Just as any whole is formed from its parts, so absolute truths are built up from relative truths in the endless advance of knowledge" (Spirkin, 1971: 95). This interpretation of absolute truth is said to be directed against the metaphysical isolation of absolute truth from relative truth, such as, for instance, Hegel did. Moreover, the relativity of human knowledge is recognised, not in the sense of the denial of objective truth, "but in the sense that the limits of approximation of our knowledge to this truth are historically conditioned" (Lenin, Philosophical Notebooks, quoted in the Fundamentals: 1963: 105). The conditions under which relative and absolute are viewed by dialectical materialism are expressed in Lenin's Materialism and Empirio-Criticism and have been dealt with in our treatment of the Leninist concept of matter in Chapter II.

In dialectical materialism, absolute and relative truths form a dialectical unity: "Every relative truth is a step forward in the cognition of absolute truth and will contain, if it is truly scientific, elements or germs of absolute truths" (Dictionary of Philosophy: 462). Science advances through the discovery and correction of errors mingled with what is truly known, in such a way that the absolute truth which emerges from the relative is continually added to. This implies that no philosophical system can claim to have exhausted all philosophical truths. Hegel is accused of having violated his dialectical method by claiming the content of his philosophy to be an absolute, eternal truth. Even the philosophy of Marx and Engels, including the three laws of the dialectic, is regarded by Soviet philosophy as a theory that can and must be further developed:

> The comprehension of the general laws and categories of dialectics, like that of other sciences, is bound to deepen with the modifications of practice and the development of science. It is bound to be enriched by new experience, new knowledge. (Fundamentals, 1963: 107).

It is "practice" which helps to differentiate objective truth from error and relative truth from absolute truth.

D. Practice as a Basis of Knowledge and Criterion of Truth

In the Soviet Encyclopedia (1970, Vol. 8: 189), we read:

> Practice is the source and basis of the cognitive process, the fundamental stimulus and goal of cognition, the sphere of the application of knowledge, the criterion of the truth about the results of the cognitive process, and an 'indicator of an objects connection with human wants' (Lenin)

Similarly, in the Fundamentals (1963: 93):

> In contrast to pre-Marxian materialism, Marxism includes practice in the theory of knowledge, viewing practice as the basis and purpose of the

> cognitive process and as the criterion of the trustworthiness of knowledge.

It seems that dialectical materialism thus, finds the answer to the question on the validity of the mirroring of the objective dialectic in the subjective dialectic in practice. Not only this, but the latter is further conceived of as an essential component of the process of knowledge itself, an incorporation which is held to be Marxism's decisive contribution to the solution of the problem of knowledge.

As the basis of knowledge, practice comes to acquire two distinct but complementary meanings in the Soviet theory of knowledge. In a broad sense, it signifies the entire activity of man, the sum total of the practical activities effected by him so far. In a narrower sense, practice is the specific problem-situation with which a person is faced while performing a specific task (ibid.: 110). The two meanings of practice are complementary in the sense that knowledge can be validated, and tested for its truth in the presence of a specific task which, in turn, can be resolved on the basis of mankind's previously accumulated knowledge. Serving as the criterion of truth in industrial production, in scientific research, as well as in the social sciences, practice takes different forms according to the nature of the knowledge being tested. In scientific investigations, it mostly takes the form of experimentation. Where direct influence on the object under study is not possible, as in the case of astronomy, knowledge can be tested against the results of other astronomical observations (Fundamentals, 1963: 110). In the social sciences, practice does not mean the activity of single individuals, but rather that of large social groups, classes or parties. "The criterion of the truth of social theories can only be the productive and practical revolutionary activities of the masses" (ibid.).

Faithful to Lenin, Soviet philosophers hold practice to constitute a third step in the process of knowledge. Both sense-reflection and intellectual abstraction are imbedded in the wide range of human practical activity which, therefore, becomes the highest stage in the process of knowledge (Spirkin, 1971: 88; Fundamentals, 1963: 100). The rationale behind the view that practice is the basis of cognition, in addition to the view that sense-knowledge and logical abstraction are based on practical activity seems to be as follows: In order that the subjective dialectic reflects the objective dialectic, it is not sufficient that the knower be simply in the presence of the objective dialectic. Before the cognitive image can come to be, the knower must be in the process of a conscious transformation of the objective dialectic: "To use a thing is as the same time to cognise it" (Fundamentals, 1963: 92).

E. The Unity of Theory and Practice

> Practice and theory are opposites, just as man's material and mental activities are opposites. But these opposites penetrate each other and form a unity of two inseparably connected and interacting aspects of social life.
> (*ibid.*: 93).

We have often had occasion to witness, as for instance in the law of the interpenetration of opposites, that dialectical materialism attaches great methodological importance to the view that opposites are intimately connected and that they deeply influence each other. Such is the case also with theory and practice. Marx had already assigned a major role to practice in his philosophy. In his eleventh thesis on Feuerbach, he set out the crux of the communist aim: "The philosophers have only interpreted the world; the point, however is to change it (in Engels, *Ludwig Feuerbach*: 75). The change he sought was not merely change for the sake of change. It was change in a definite direction: The achievement of a communist society. He saw that the uncovering of the laws of history enabling society to achieve the goal, were all theoretical matters with great practical import. He emphasised action guided by theory and sought to bring to the awareness of the working class, an insight into its problems. Lenin, Stalin, and present-day Soviet philosophy followed Marx's lead in attributing tremendous importance to Marxism-Leninism as their guide in building communism. In the Fundamentals (1967: 94), we read:

> The victory of the socialist revolution and the immense achievements of the U.S.S.R. and other countries of the socialist camp would not have been possible if the communist parties had not been guided in all their undertakings by the unity of theory and practice.

According a great importance to this principle, Soviet philosophy rationalises the validity of this principle in the context of knowledge as follows: Since practice and theory are opposites, they penetrate each other (according to the law of interpenetration of opposites). Practice not only poses for theory problems to be solved, but it also creates the material means for the cognition of these problems (Fundamentals, 1963: 93). In this context, science, engendered as it is by practical requirements (such as telescopes, electronic computers, atomic reactors, etc...) is said to exert "a powerful and ever increasing reciprocal influence on practice" (ibid.: 94). On the other hand, knowledge of the laws of nature directs and shapes man's material productive activity.

F. The Logical and the Historical

The objective dialectic is in constant evolution: It has a present, a future, and above all, a past. The historical in Soviet theory is the past of the objective dialectic. The history of the objective dialectic is summed up in the subjective dialectic in the form of the logical. The following passage from the Dictionary of Philosophy (p. 192) provides an adequate explanation of these two categories:

> The historical expresses the real process of origin and formation of the given object; the logical, the relationship, the laws of connection and interaction of its aspects which exist in a developed state. The historical is related to the logical as the process of development to its result, in which the connections successively shaped in the course of history attain 'complete maturity and classical form' (Engels).

The historical is the objective dialectic along with all that has occurred in it in the course of its eternal existence. This also applies to this part of the historical which is occupied by the higher forms of matter such as man and man-made society. It is also true of all matter, since every object in the world has undergone changes the history of which it carries at all times.

The logical is that portion of the subjective dialectic which reflects, in a summarised and generalised form, the historical development of the objective dialectic (the historical). The logical and the historical form a dialectical unity "including an element of contradiction" (ibid.). Their unity is expressed in two ways: First in that the historical contains within itself the logical to the extent that each process contains in itself its own necessity which yields to a definite result. Second, the unity between these two categories is expressed in that the logical also contains within itself the historical in the sense that it reproduces the history of the developed whole, its emergence and the formation of its specific structure (ibid.).

Because the logical sums up all that which is essential in the historical, they are identical: "The logical is the selfsame historical released from its concrete form and presented in a generalised, theoretical way; and vice-versa, the historical is the selfsame logical vested in the flesh and blood of concrete historical development" (ibid.: 193). However, because the historical contains a wealth of details which is lost in the logical, they are distinct. Hence, the historical and the logical methods of study differ in content. Dialectical logic makes use of the dialectic of the logical and the historical in its attempt to reveal the general laws of knowledge, as well as the logic of movement of thought in the process of cognising reality. The importance of the historical method (in dialectical union with the logical method) for the study of thought lies in that the latter, like practice, is a social phenomenon. Nature has revealed its secrets and continues to do so "through ever more complex forms of human social relations" (Philosophical Encyclopedia: 19). Human knowledge is a historical phenomenon which is accumulated over generations and fixed in language which is closely bound up with thought. The thought of contemporary man is a historical product the particularities of which have been accumulated over the course of social practice. It is the historicity of human knowledge as well as that of the object of knowledge, which renders the historical method necessary. Some of the necessary methods of knowledge belonging to the logical and which are nevertheless historical in the sense that they appear differently at each period in the history of the development of thought, are: comparison, analysis, synthesis, generalisation, abstraction, induction and deduction. These methods are born from man's practical operations. Where they end, "thought begins not as an agglomerate but as a differentiated unity of the various parts, which makes up concrete knowledge and is expressed in the definition of the object" (ibid.).

Critical Remarks and Conclusion

A. The Subjective and Objective Dialectic

As we know, the thesis on the unity of the subjective and objective dialectic is the basic foundation of logic and epistemology in Soviet philosophy. The major criticism which can be put forth in relation to this thesis, is its rather mechanist character. It is true that Soviet philosophy emphasises the active character of the subjective dialectic in tranforming the objective dialectic. Nevertheless, the relationship between the subjective and the objective dialectic is formulated in Soviet writings in a way which gives the impression of a strict correspondence, and reflection between the two. Within this conception, the subjective factor is undermined in favour of the objective one. In the context of historical materialism, for instance, the Fundamentals of Marxism Leninism present the development of capitalism, the transition to socialism and the progress in the Soviet society through its various stages, as the unfolding of a system which could not have otherwise unfolded. Strong and persistent emphasis is put on the role of the Communist Party as well as on the patriotic heroism of the Soviet people. However, their success is said to have been made possible only because of their understanding and adherence to the laws of the dialectic. Here the subjective factor, as Marcuse rightly remarked, does not seem to appear as an essential stage of the objective dialectic, but rather as a recipient or executor of the latter.

B. The Coincidence of Dialectic, Logic and Theory of Knowledge

In his Soviety Theory of Knowledge (1964: 143), Blakeley remarks:

> That the Sovpadenie problem is a problem at all is due to the fact that contemporary Soviet philosophers continue to let a word for word ... interpretation of a few random quotes stand in the way of a perfectly obvious solution, the empirical one. Are there logicians in the Soviet Union? Yes. Are there ontologists in the Soviet Union? Yes. Are there epistemologists in the Soviet Union? Yes. Therefore, there are three distinct sciences .... That Marxism-Leninism has not overcome the traditional partition of philosophy into three main compartments, is patent.

The "word for word interpretation of a few random quotes" to which Blakeley refers is Lenin's statement in which he states that one word is sufficient to designate logic, dialectic and epistemology. In fact, Soviet philosophers no longer quarrel over the exact meaning of Sovpadenie. Rather, they use this term interchangeably in the sense of unity and/or identity. Thus, the problem remains unsolved to this day, or, at least, unsatisfactorily solved, a fact which does justify the Western critics' claim pertaining to the dogmatic character of Soviet philosophy.

However, the thesis on the coincidence of logic, dialectic and epistemology is too fundamental a thesis in Soviet thought to be discarded altogether strictly on the account of dogmatism. In fact, Soviet philosophy considers that the fusion between materialism and dialectic, a fusion which Marx, Engels and Lenin achieved, is due to the organic link which exists between the laws of being and the laws of thought (Soviet Encyclopedia, 1974, Vol. 15: 563). Blakeley is not totally justified in overthrowing the foundation of dialectical materialism on the basis of "empirical" evidence. We have shown in our treatment of Engels' formulation of the basic question of philosophy that the attempted conflation which Engels effected between the ontological and the epistemological levels was directed against Hegel whose philosophy showed a similar conflation on "idealist" grounds. But Engels had to found his philosophy on grounds which he considered to be the pivot of all the philosophies he was refuting. The argument may be put forth that by doing so, he remained on the defensive, but nevertheless, he succeeded in setting up the philosophical foundation of ideology, the essence of which he sought in the struggle between materialism and idealism throughout the history of philosophy.

Following Engels' footsteps, Lenin, in his turn, emphasised the inseparability of epistemology and ontology, through the thesis on Sovpadenie and through his definition of matter. His endeavour was rendered more complicated than Engels' because of the new discoveries which threatened philosophical materialism at the beginning of the century. As we have shown in our treatment of the Leninist concept of matter, in order to safeguard philosophical materialism as well as its relation with the sciences, Lenin assimilated these two realms all the while starting off with an emphasis on the epistemological aspect. His attempt was directed towards Pearson, Bogdanov, and the Russian Machists whose denial of matter was a consequence, in Lenin's opinion, of a denial of the objective source of sensations. Contemporary Soviet dialectical materialism which has inherited from Engels and Lenin the foundation of its philosophical views has retained from its founders the crux of their views, for the ideological purport behind Lenin's claims has retained its "raison d'être" to the present day.

C. Dialectical Logic and Methodology

As we saw in our critical remarks on the dialectic, Marx conceived of its categories as a means of historical analysis which come to life in their historical concretion. Marcuse pointed out that Hegel could conceive of the principle of the dialectic as a science of logic, in the medium of universality, because for him the structure and movement of being attained their truth in the absolute Idea. However, "Marxian theory ... which rejects Hegel's interpretation of being in terms of the idea, can no longer unfold the dialectic as logic: Its logos is the historical reality, and its universality is that of history" (Marcuse: 143). Marcuse further attributes the difficulties of Soviet Marxism in producing an adequate textbook on logic and dialectic to the very essence of the latter which precludes such a codification (ibid.: 137). As to the methodological principles dialectical logic is endowed with, it is rightly remarked by Marcuse, and we share his view, that neither Hegel nor Marx saw in dialectic a general methodology. Engels was the first to have taken steps in this direction in his Dialectics of Nature which provided the skeleton for the subsequent Soviet codification. Western critics agree in denying the validity of the dialectic both as logic and as method. Dialectical logic is said to "contain not one single rule which allows us to draw deductions" (Bochenski, 1963: 111), and as to the dialectical method which is the concrete expression of logic, its usefulness for science is denied: "We have been unable to find one single way in which the dialectical method has been applied to natural science; on the other hand, its ontological theses are constantly applied to various sciences" (ibid.: 97). And Blakeley (1964: 85), to confirm:

> The philosophical methodologists are unable to show a single instance of a fruitful application of the Marxist dialectical method outside of the strictly delimited domain of the Marxist-Leninist philosophy.

Blakeley (_ibid_.: 143) rightly remarks that, although it is claimed to be a method for science, the dialectical method is built on ontological and psychological premises, none of which can be immediately acceptable to the non-Marxist-Leninist; that this so-called dialectical method is more in the nature of an epistemology involved with the relationship between thought and the objective world, rather than with the ways things are created by thought (_ibid_.: 86).

It is probably far fetched to reject in _totum_ the Soviet philosophical claim pertaining to the applicability of the dialectical method to scientific studies. At the end of Part Two of this work, we will show the attempt made by a Soviet psychologist (Leontyev, 1977) to apply this method to the study of memory. Our belief is that the dialectical method does play a role vis-à-vis the special sciences, but that this role is an _ideological_ one which relates to the function of philosophical practice in general vis-à-vis the special sciences. We have already referred to the role of philosophical practice in Soviet tradition ever since Lenin as one which consists in protecting scientific practice against the assaults of idealist philosophy, the scientific against the ideological.[3] The essence of this practice, thus, is an intervention in the theoretical domain. It is in this sense that the dialectical "method" as an "aid" to scientific inquiry should be understood. Needless to say, this intervention is possible because of the privileged position dialectical materialism holds vis-à-vis the special sciences: Its aim is to establish in the special sciences the active ideological component which is already at work in philosophy. We read in the Soviet Encyclopedia (1974, Vol. 15: 564) that:

> Natural science is not 'neutral' in the struggle between the basic philosophical tendencies, the struggle between materialism and idealism. Lenin strongly refuted the bourgeois philosophers' assertion that natural science was non partisan in the philosophical struggle.

This principle of "partiinost" (partisanship) which Lenin established in philosophy and science alike permeates all the Soviet claims concerning the "scientific" character of dialectical materialism. In our view, the so-called dialectical method is just one instance of the concrete expression of partisanship in science. It establishes on the level of scientific practice that which already exists in theory, namely the link between philosophy and science through ideology. Here, the principle of the unity of theory and practice is fully carried to its limits.

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[3] See Chapter II.

In our treatment of Soviet psychology as a science shaped on the principles of dialectical materialism, this fact will become apparent. It is sufficient to point out for the moment, a slightly different aspect of the problem, namely, that the changes which took place in the system of Soviet philosophy were likewise, most often effected in order to accommodate new ideological needs. The sudden reintroduction of formal logic to complement the dialectical one after nearly 25 years of "exile" belongs here.

As we already mentioned, Stalin's letters on linguistics specified that, in contradiction to Marr's views, language is not part of the superstructure, but that it is a characteristic of society as a whole in the course of centuries. Consequently, Soviet philosophers argued that logic, being the science of language "par excellence" is not class conditioned, and that, like language, it belongs neither to the base, nor to the superstructure. Marcuse pointed out (p. 159) that this reiteration, in Soviet thought, of the common human function and content of language and logic was aimed at bringing the ideology in line with the drive towards the next stage of socialism in the Soviet Union. The rejection of formal logic in the aftermath of the Revolution and the acceptance of

Marr's theory concerning the appearance of a specific Marxist language to replace Russian was an ideological by-product of the first stage of the Stalinist construction of socialism in the Soviet Union. The superiority of the "New Soviet Man", deriving from his possession of Marxism as the only true world outlook was a useful ideological compensation for the violent struggle to overcome the industrial and technological backwardness of the country (ibid.: 158). However, when this aim was achieved, the growing political and strategic powers of the Soviet State demanded new objectives basically in contradiction with a strict nationalism. As Marxian theory is in its essence international, nationalism becomes progressive only as one stage in the historical process. The second phase of socialism, requiring a normalisation of the East-West relations and towards which the Soviet state was tending, demanded more universal and internationalist conceptions. Far from signifying the arrest of the dialectic in the sense of the stabilisation of the attained level of development, the Stalinist revision introduced in the concept of language and in consequence, logic, was one of these accommodations to a new ideological trend in the Soviet Union, in this case, the drive toward the second stage of socialism. In Part Two of this work, when dealing with the successive attempts to create a Soviet Marxist psychology, we will try to emphasise this point.

D. The Theory of Knowledge

Concerning the premises of the theory of reflection, the thesis on the correspondence or reflection of the material world in thought does not account for the fact that knowledge often proceeds in the reverse direction from that of reality. Whereas in reality development progresses from causes to effects, knowledge, however, can ascend from effects to causes.

Apart from the preservation of the purity of classical tradition, the reasons which contemporary Soviets have to preserve this rather cumbersome view on thought being a reflection, copy or photograph of reality, is many-fold: On the one hand, it preserves the materialist monist character of dialectical materialism, thereby avoiding any form of spiritualism. On the other hand, the reflection theory can refute the idealist claims of the duality of matter and spirit as well as the agnostics' rejection of the possibility of attaining true knowledge. In both cases, the existence of God is outruled by the knowledge that "man's cognitive faculties are not a mysterious gift divinely bestowed, but a result of a prolonged development that took place in the process of cognition, or reflection of the material world on the basis of practical activity" (Fundamentals, 1963: 96).

Finally, the idealist distinction between the epistemological and the ontological becomes untenable if it is shown that what is generally called spirit is part of the development of self-moving matter: "The materialist theory of reflection does not counterpose consciousness to matter in an absolute sense ... since consciousness itself is a property of matter" (ibid.). It seems that Soviet theory of knowledge is restricted by a strict adherence to a line of "militant materialism" whose enemies are the same ones which haunted the writings of Engels and Lenin.

As a final remark on the theory of reflection, we would like to point to a difficulty which pertains to a confusion in Soviet writings (probably an echo of Pavlovianism) between the physiological and the psychological domains. Nerves, it is perfectly true, play a major role in thinking; however, the nature and activity of nerves are physiological, whereas the nature of thought is akin to psychology and philosophy. However, no clear distinction is made between these two realms in Soviet presentations of the theory of reflection, a fact which is characteristic of many of the views expressed in Soviet psychology.

So far as the claim of practice being the criterion of truth is concerned, we can say that its purport is profoundly ideological, in the sense of partisanship. That this is so indeed is clear from our discussion of the role of philosophical practice in science, and from the following statement taken from the Soviet Encyclopedia (1974, Vol. 15: 560):

> It is through practice that the false constructs of the idealists and agnostics are refuted and the truth of materialism demonstrated incontestably.

As to the dialectic of the logical and the historical, we can apply to it the same comments we made on the thesis of the union of subjective and objective dialectic: The relation between the two is presented in a rather mechanical way which does not account for the "radical qualitative change" which occurs in the logical in its attempt to sum up "the history of the objective dialectic". The interaction between these two categories (the logical and the historical) should be more than one of correspondence and reflection. The logical is not merely the reproduction of the historical "cleansed from its concrete content", rather, in the course of its summing up of the historical it is subject to a qualitative change which, carrying in it a strong subjective factor, can no longer be conceived of as a reproduction or a reflection of the history of the objective dialectic.

PART TWO

DEVELOPMENT OF SOVIET RUSSIAN PSYCHOLOGICAL THEORY ON THE BASIS OF DIALECTICAL MATERIALISM

1917 - to the present

CHAPTER I

THE MECHANIST PERIOD

1917-1929

Introduction

The years which followed the Bolshevik 1917 Revolution in which the Communist Party seized power in Russia were characterised by an extensive rejection of Western influences in Russian psychology. As a recent Soviet writer has pointed out (Lomov, 1979) these years witnessed a "severe ideological struggle" against idealism which pervaded Russian psychology itself. The efforts made by Blonsky and Kornilov in constructing psychology on the basis of materialism brought to an end idealism as a philosophical tendency in 1923 and 1924.

It was during the phase dating from 1924 to 1929 that Marxism may be said to have won acceptance as the proper methodological basis of psychology in the Soviet Union. However, this acceptance was at best theoretical, since, by the end of the 1920's its application to psychological theories was judged unsatisfactory. However, several psychological schools did emerge during this period, each claiming to be the true bearer of Marxist theory, and each denied this claim. The theories which were presented in 1924-1929 for consideration were: Bekhterev's reflexology, Kornilov's reactology and Pavlov's conditioned reflex schools. All three schools were characterised by strong mechanist and positivist elements. Vygotsky's efforts to correct these extremist positions singles him out as a precocious thinker of his time.

In this chapter we will deal with the struggle to eliminate idealism in Soviet psychology between 1917 and 1924 and with the alternatives suggested from 1924 to 1929. The situation of pedology and industrial psychology at the time will also be briefly dealt with. Particular emphasis will be put on the efforts made by the various psychologists to prove the Marxist character of their views. Equal emphasis will be put on the Official acceptance or rejectance of these claims and the reasons behind this acceptance or rejection.

1. Phase One: The Fight Against Idealism 1917-1924

A. The Attack On Bourgeois Psychology

In his 1979 historical survey of Soviet psychology, Lomov comments on the immediate effects of the Bolshevik Revolution on psychology as follows:

> The Great October Revolution created a bulwark for scientific thought, shattered the shackles of idealism and religion that had bound science, and opened up broad horizons for the development of psychology as a science.
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> (p. 70).

In fact, in the aftermath of the Revolution Soviet institutions were faced with the new overwhelming duty of fundamental reorganisation. In order to meet the pressing demands of revolutionary reconstruction from Tsarism to Socialism, Soviet psychologists immediately attempted to build a new, objective, Marxist psychology. However, the task was not a smooth one; the shackles of idealism and religion to which Lomov refers speak of the fact that during the early years of the Revolution, psychology in Russia did not differ in any noticeable way from its counterpart in the Western world. And although Russian psychology had exhibited a strong objectivist trend since the time of Sechenov, most of the leading psychologists at the turn of the century in Russia were still influenced by the introspectionist schools prevalent in America and Western Europe at that time. Naturally, these schools were heavily attacked for representing bourgeois ideology and for being pervaded with idealism, metaphysics and subjectivism. All fields of bourgeois scientific study were considered to be in a state of crisis. This mode of criticism during that period had been initiated by Lenin's *Materialism and Empirio-Criticism* (1909) where it is argued that the study of physics in capitalist countries was in a state of profound confusion. Unable to comprehend the new discoveries, it had taken refuge in the theory of vanishing matter.[1] Russian psychology itself was said to be in a state of crisis due to a lack of clarity as to the object of study and methods to be used. The proliferation of schools, the overt and more subtle influences of theology, Kantianism and other philosophical trends were viewed as signs of a very unhealthy situation, leaving little prospect for the development of a valid science of psychology (McLeish, 1975: 102). At this time psychology was still in thrall to philosophy and theology. There were no professional chairs in psychology. There was only one single psychological institute headed by the idealist philosopher Chelpanov. The crisis in psychology was seen to lie in the contradiction between experimental psychology which implied a spontaneous materialist approach and the subjective view of the psyche exemplified in the teachings of Descartes and Locke (ibid.). The feature which distinguishes this phase of Soviet psychology from subsequent developments was the existence of frankly idealist trends. K.N. Kornilov (1879-1957), who was to play an important part in the shaping of Soviet psychology, divides these pre-revolutionary schools into two groups, the subjective-empirical and the metaphysical schools (Payne, 1968: 39). In the first group, Kornilov includes N.N. Lange (1858-1921), who founded one of the first laboratories of psychology in Odessa, and A.P. Nechaev, who was responsible for the founding of psychological laboratories in St. Petersburg and Kiev. Kornilov accuses this group of separating the psychic from the physiological and of promoting a duality of matter and spirit (ibid.). In the second group, Kornilov includes N. ja. Grot (1852-1899), L.M. Lopatin (1855-1920) and G.I. Chelpanov (1862-1936), all members of the Moscow Psychological Society whose organ was Voprosy Filosofii i Psikhologii (Problems of Philosophy and Psychology) which was founded in 1890. According to Kornilov, the object of psychology as seen by this group was the study of spiritual phenomena as a principle entirely independent of matter (ibid.). In addition to these idealist trends, the psychology to be found in Russia at that time included a number of schools borrowed from the West, such as Watson's behaviorism, the Gestalt psychology of Kofka and Köhler, as well as Freud and Adler's psychoanalytical schools. Watson's school was rejected for its "naive materialism" and, along with Gestalt psychology, it was viewed as being not only confined in its studies to restricted structural laws of perception on the one hand, and the discovery of natural science codes of behavior on the other, but also, by this very endeavour, both disciplines resisted causal explanations, the sine qua non condition for the progress of science.

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[1] See Part One, Chapter II.

However, with the anticipated civil war and the wars of intervention at the end of 1920, attention was directed more and more to the enemies of the "proleterian dictatorship" at home. In this regard, the Bolsheviks under Lenin recognised the need for the fight on what he called the "ideological front" (McLeish: 104). Under the influence of the continuing Revolution, a reconstruction of the intellectual life on the basis of Marxism was called for as a pressing need. In 1922, Lenin wrote:

> We must understand that no natural science, no materialism whatever, can hold out in the struggle against the onslaught of bourgeois ideas and the restoration of bourgeois philosophy without a solid philosophic basis. ... unless we do this, the great investigators in natural science will be as helpless in their philosophical deductions and generalisations as they have been heretofore.
> (Quoted by McLeish: 105).

In 1922 and 1923, there was a tremendous campaign against religion, which culminated in the expulsion of over a hundred intellectuals from Soviet Russia. Among these we can mention such university professors as Vvedenski, Lossky, Bulgakov, Frank and others who expressed philosophical views openly hostile to Marxism. Moreover, in accordance with Lenin's procedure of isolating the major enemy before dealing with the weaker ones, attention was first directed to exposing the errors of idealism as a declared and self-conscious tendency. In this sense, idealism does not merely signify a philosophical trend; it is also identified with a more or less covert form of religious belief which was seen as belonging to the same enemy camp (ibid.: 105). Lomov (pp. 69-70) declares that "Before the revolution, official psychology was steeped in idealistic philosophy and was used along with religion to shape the consciousness of people in the interests of the ruling class as a means of reinforcing the class stratification of society".

In the early days of the Soviet state, when there was no general consensus as to the meaning of Marxism-Leninism for psychology, there was a general agreement as to the need for a materialist psychology. In this connection, the views of the introspectionists were branded as "idealist" and incompatible with Marxism. In order for psychology to be Marxist, there was only one way: it had to be grounded on a firm basis of materialism.

B. The Elimination of Idealism and the Plea for a Materialist Psychology

In the course of the struggle to purge psychology of idealism and to place it on a firm materialist ground, Blonsky and Kornilov played the role of spokesmen of the new generation of Soviet psychology which emerged in the early nineteen twenties. As Lomov (p. 70) puts it, in his "Survey of Sixty Years of Soviet Psychology", "the battle was one of materialism versus idealism with regard to the nature of mental phenomena". By idealism is meant all the philosophical schools "according to which the psychic factor is something autonomous and independent of matter, i.e., it is not a special property of matter, nor is it a product of the brain"[2] (Smirnov, 1962: 15).

Blonsky's Reforms of Science (1920) and his Essay on Scientific Psychology (1921) are considered to have given the death blow to the idealist interpretation of the psyche. Blonsky's 1920 work was the first attempt by a Soviet psychologist to build a system of materialist psychology based on Marxism. In this book, he argued against the "science of the soul" with its metaphysical method. Instead, he proposed a materialistically founded "science of behavior" as a natural and social science firmly linked with evolutionary biology as well as Marx's and Engels' materialist conception of history (McLeish: 105).

The name of Kornilov is associated with that of Blonsky during this early period of reconstruction of Soviet psychology. In 1921, he published his Theory of Human Reactions and in 1923, at the first All-Union Congress of Psychoneurology, he presented a paper "in which he showed that psychology could become a real science only if it were based firmly on materialist foundations" (Lomov: 71). Although in his 1921 textbook,

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[2] See Part One, Chapter I.

Kornilov had defined psychic phenomena as purely physical energy, in his 1923 address he corrected his earlier views and accepted Lenin's statement that the psyche is a property of the most highly organised form of matter (Rahmani, 1973: 25). This he considered as the essence of materialism. Kornilov is given credit for having finally defeated idealism. In his book *Contemporary Psychology and Marxism* (1925) he tried to assimilate contemporary psychology within the framework of Marxism. In this work, which is mainly of a historical interest, Kornilov restated Marx's views concerning the essence of human nature expressed in his *Notebooks on Feuerbach* (1845) as well as in his anti-hegelian works (McLeish: 105-106).

Because of the situation which existed in Russia in the early nineteen twenties, Blonsky and Kornilov's views achieved their plea. In fact, the principles which they advocated are repeated again and again even as the main theme of recent discussions. For example, Lomov (p. 71) asserts that Blonsky and Kornilov were successful in presenting a materialist monist standpoint to replace dualism and idealism in psychology. More than that, they were aware of the need to apply historical materialism to the study of the human mind (*ibid.*).

Blonsky's central view was that in a class society man in general is an empty abstraction, for man's social behavior is directly determined by the behavior of his class. This view is obviously shaped after Marx and Engels' main criticism of the left Hegelians which Marx had expressed in these words: "Feuerbach consequently does not see ... that the abstract individual he analyzes belongs to a particular form of society" (n.d.: 74). Blonsky's contributions reside in his attempts to set psychology on the principles enunciated by the German classics, later developed by Lenin. In his review of "Thirty Years of Soviet Psychology", Teplov asserts that "The history of Soviet psychology is in reality the history of the mastery of the Marxist-Leninist method by the Soviet psychologist... Each new step forward is a witness to a new stage in the creative mastery of Marxism" (Quoted by McLeish: 106). In a 1967 History of Soviet Psychology, Petrovsky similarly states that "Substantial facts in the history of psychological science in the U.S.S.R. must be considered in the light of the struggle of the Communist Party for dialectical materialism as the basis of Soviet Psychology" (Quoted in ibid.: 106-107). These two statements are typical of the interpretation of the development in the Soviet Union, not only of psychology but of other related Soviet intellectual disciplines (Lomov; Rozenthal & Judin, 1967: 370-371). It seems clear that Blonsky and Kornilov's writings formally initiated this line of thought. Lomov (p. 71) asserts that these two psychologists presented a position of materialist monism, and that, "drawing on the works of Marx, Engels, and Lenin, they conceived of the mind as a unique property of highly organised matter that should be studied with the aid of objective methods". Moreover, Lomov states that (ibid.) Blonsky and Kornilov recognised as early as the nineteen twenties that individual psychology can be grasped only against the backbone of class psychology which, in its turn, is determined by economic and socio-political factors. That psychology must place itself first and foremost at the service of the Communist Party in its struggle to establish socialism was expressed by Kornilov in his 1923 address. This view prevails in Soviet Russian Psychology of the present.

Blonsky and Kornilov's views can be summarised as follows:

First, that in adopting a Marxist materialist framework, for psychological investigations, all anti-materialist schools must be excluded; Second, that a generalised psychology of human nature, one which disregards class struggles is a hollow abstraction. In the early twenties these views were taken as indicators of the direction in which Soviet psychology must develop. On the other hand, Kornilov's assertion that only Marxism is adequate as the basis for a scientific psychology was accepted and acclaimed once and for all. This principle was NEVER questioned in later discussions on the nature and methods of psychology. However, while for Kornilov a Marxist psychology meant a materialist one, in later discussions and debates, the requirements for a Marxist psychology were modified with new elements being added (or retrieved) which were thought to be more faithful to Marxism.

This period of Soviet psychology came to an end in November 1923, when Chelpanov handed over the direction of the State Institute of Experimental Psychology in Moscow to Kornilov (McLeish: 108; Rahmani: 26). This event which marked the start of a new era in the history of Soviet psychology was celebrated as a political event:

> Starting from 1923, Soviet psychology freed itself from the influence of Chelpanov's empirical approach and adopted the methodology of dialectical materialism, deliberately facing the task of building a Marxist psychology. (Petrovsky, 1967, quoted by Rahmani: 26).

2. Phase Two: The Predominance of Mechanism

1924-1929

General Characteristics

The speech delivered by Kornilov in 1923 acted as the epitaph of the older schools of Russian psychology. However, although Kornilov had insisted in his speech on the necessity of basing psychology on a materialist foundation which recognises the special nature of the psyche, the dominant trend during the nineteen-twenties was one of extreme mechanism and objectivism.

There are several reasons for the predominance of mechanism during this period: First, the removal of the introspectionist schools and the struggle for the elimination of idealism during the years following the Revolution left objectivism in an almost undisputed possession of the field of psychology. The struggle to purge psychology of idealism and to base it on a solid materialist foundation rendered all subjective concepts suspect. The very existence of psychology as an independent discipline was put into question. Both Pavlov and Bekhterev adopted a view similar to that of August Comte in their rejection of the status of psychology as a science, and their insistence on studying man's behavior as a bio-social phenomenon (Payne, 1968: 40-44). Consciousness was seen as a reflection of underlying physiological processes. Of the two, Bekhterev was more militant in his opposition to psychology. He even went so far as to suggest that Marx's use of such words as "consciousness" must be re-interpreted in terms of contemporary concepts. Using a well-known citation from Marx, he equated consciousness with behavior: "It is not consciousness which determines existence, as the subjectivists have supposed and still suppose, but existence which determines consciousness, or (in reflexological terminology), human behavior" (Quoted by Bauer, 1952: 69). Characteristically, Pavlov stood aloof from these theoretical discussions even though he was openly sceptical of the scientific status of psychology.

Perhaps the extreme objectivism of this phase of Soviet psychology is one consequence of the broader ethos of the intellectual life of the Soviet Union after the Revolution. There was above all a great faith in the power of natural science. The expression "science is the religion of the Soviet Union" was often utilised to describe the atmosphere of the twenties. It was this belief in the limitless capacity of man to create miracles by the free play of rational thinking that almost carried the day for the mechanist scientists in the course of their fight against the dialectical philosophers.[3] It is only natural that this enthusiasm for natural science would be accompanied with an increased emphasis on objective methods, on determinism, and on quantitative rather than qualitative methods. The acceptance of scientific models of mechanics and physics is a further consequence of the high prestige of the natural sciences. The reigning principles of science were: materialism, objectivism, determinism, quantification and, inplicitely, reductionism (Bauer, 1952: 45-50).

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[3] See the "Mechanist Controversy" in the next chapter.

This phase of development can be justly regarded as the most formative phase in the history of Soviet psychology, in that all the opposing schools (with the exception of the idealist trends eliminated during the earlier phase) were allowed to prove the correctness of their claim to be the true bearer of Marxism in psychology. The criterion of truth for the proposed schools were assessed from the point of view of their objective truth and their consequent substantiation of Marxism. Towards the end of the nineteen-twenties there was a greater enthusiasm for various bourgeois psychological schools thought to bear some consonance with the teachings of dialectical materialism. Especial enthusiasm was reserved for German Gestalt psychology. However, criticism was unceasing, and the point was made that these foreign schools were characteristically idealist in essence. For example, Borovski writes in 1929:

> Some of our junior fellows are showing considerable interest lately in the German Gestalt psychology... Certain principles in it [seem to] conform to fundamental dialectical postulates. [But] the subjectivism and idealism, which are very prominent in Gestalt psychology, cannot, of course, be approved of. It is difficult to formulate in few words our attitude towards American behaviorism. The majority of psychologists of our Union owe a great deal to behaviorists; we loaned and learned a lot from them. But we shall never agree with a behaviorism trying to be purely empirical (for "no philosophy means

> bad philosophy") or with a behaviorism tending to eclectics - not until behaviorism is rebuilt on the philosophical basis of dialectical materialism.
> (p. 184).

These psychologists who adopted behaviorism or other foreign trends were blamed for trying to find fellow travellers among bourgeois psychological schools instead of attempting to devote their energy towards the construction of a truly Marxist psychology.

Despite the great preoccupation with the principles of dialectical materialism, only one materialist proposition was subsequently viewed as rightly taken: "the psyche is a property of highly organised matter". But this proposition was in itself insufficient for the building of a Marxist psychology, in as much as there was no clear idea of what this property should consist of. As we will see in the next chapter, Lenin's theory of reflection was to furnish the key for the dialectical psychologist.

A. Bekhterev's Reflexology

More than any of the other psychologists considered here, Vladimir Mikhailovitch Bekhterev (1857-1927) tried to construct a totally new system of thought. Bekhterev studied medicine at the Medicosurgical Academy in St. Petersburg before going abroad in 1884 to do research under Wundt, Du Bois Reymond and Charcot. Upon his return to Russia, he taught at the University of Kazan, and in 1893 he became a professor at the Military Medical Academy in St. Petersburg. Bekhterev published about 600 works in the fields of the physiology of the nervous system, clinical neurology and psychiatry, psychology and pedagogy. Some of his most important books include: The Fundamentals of General Functions (1903), Objective Psychology (1907), General Principles of Human Reflexology (1917), Collective Reflexology (1921), and The Brain and its Activity (1928).

Bekhterev set himself the task of establishing a strictly objective science of man and in so doing, to bring the scientific study of man in line with the natural sciences. He postulated the unreliability of the subjective method for the study of the inner experiences of people and for answering such fundamental questions as those concerning the nature of free will and the evolution of consciousness (Bekhterev, 1933: 63). The only reliable method of scientific investigation is the objective method used in the natural sciences. Man's subjective processes and the processes of consciousness cannot constitute a valid object of scientific investigations (ibid.: 62). The advantage of the application of objective methods to the study of man lies in establishing that the same laws which govern the physico-biological processes are valid for human personality and even human society (ibid.: 21). During the first decade of this century, Bekhterev initiated the laboratory study of associative motor-reflexes using dogs as his subjects and then human beings as subjects for special training. His method of associative reflexes differs from Pavlov's conditioned reflexes in that he used electrical skin irritation as the chief stimulus (Pavlov's "unconditioned stimulus"). This stimulus, when applied, elicits a defensive movement. When combined with some initially neutral stimulus, an "associative reflex" (Pavlov's conditioned reflex) is created and the previously indifferent stimulus can now elicit the same defensive movement.

Expanding his initial work on the reflexes, Bekhterev set out to establish a new science which will study human personality using purely objective, biosocial methods. Affirming the inaccessibility of the psyche to knowledge, and stressing, instead, outer behavior, he reduced conscious behavior to combinations of reflexes. Moreover, he attempted to study the effect of physical, biological and social factors on psychic functions, including speech, gestures and facial expressions, by recording external reactions and relating them to their current and prior stimuli. Speculating about the neurological basis of psychic functioning, Bekhterev posited that both mental and physical phenomena constitute a single process. "The subjective tint" of the nervous current is a result of the obstacles encountered by the waves of ions produced by external stimulation and intensified in the brain (Rahmani: 14). The subjective world of consciousness as well as all cerebral processes are the result of the transformation of energy, and function according to the laws of transformation and conservation of energy disclosed by Helmhöltz (Bekhterev, 1933: 101-102).

Bekhterev immediately attempted to generalize his work. In the course of his career as a scientist, he included all aspects of human development under the title of Reflexology. He named various branches of "the science of reflexology" and devised programs of work which provided an outline of these branches of knowledge. In 1925, in his Psychology, Reflexology and Marxism, he claimed that his views are congruent with dialectical materialism and that the "crisis" in Soviet psychology could be resolved only by espousing his standpoint on energy as set out in his laws of associative reflex activity (McLeish: 113). He went so far as to refer to the whole of reflexology as "a dialectical synthesis of the historical development of human personality, the thesis of which was metaphysical and its forebearer empirical psychology, and the antithesis of which was the earlier stages of reflexology" (Quoted by Bauer, 1952: 62).

The Official Evaluation of Bekhterev's Views

The official evaluation of Bekhterev's views was somewhat ambivalent. Bekhterev knew a short-lived success in the early twenties and up to 1929 when reflexology was officially condemned.[4] Rahmani (p. 14) reports that Bekhterev was praised for his political views for which he had been at odds under the Tsarist régime. The chairman of the Presidium of the Supreme Soviet of the U.S.S.R., praised him in Izvestiia for his contributions to the rapprochement between science and labor. The 40th anniversary of his activity (1926), was celebrated by a festive volume of Pod Znamenem Marksizma (Under the Banner of Marxism). An editorial footnote to a paper by Bekhterev published in this volume emphasised the acceptance of diamat by a scientist (ibid.).

Since Bekhterev's work was coupled in the popular mind with that of Pavlov, he acquired a prestige which led to a strong surge of enthusiasm for reflexology which started to displace psychology in the courses of teaching in the institutes of higher education (Bauer, 1952: 57). However, the reflexological movement did not go entirely unopposed. It was subjected to severe criticism by a group of psychologists at the Psychological Institute in Moscow headed by Kornilov. The latter published a series of articles in Pod Znamenem Marksizma between 1923 and 1927 where he repeatedly accused the reflexologists of mechanism, and of deviating from the principles of Marxism (Payne, 1968: 41).

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[4] See next Chapter.

By the late twenties and particularly after Bekhterev's death, the tendency to reject his views prevailed. In 1928, the Leningrad Society of Reflexology, Hypnosis, Neurology, and Biophysics set up a special panel for the discussion of methodological problems. The task of this panel was to reorient reflexology on the basis of dialectical materialism. In the following year a conference was held on the topic "Reflexology or Psychology". The proceedings of this conference marked the end of reflexology as a dominant trend in Soviet psychology. (Rahmani: 14). In 1929, the Second All Union Conference of Marxist Leninist Research Institutes came to the conclusion that reflexology was a revisionist trend which deviated from a truly Marxist-Leninist position. (ibid.).

Rahmani (pp. 15-17) rightly attributes the reversal of attitude towards Bekhterev's system to two main reasons: First, the fate of Bekhterev's work, as with that of other Soviet scientists, rested on its fulfillment of ideological requirements. Some theories and views which were originally praised were later supplanted as other theories were believed to be more in line with Marxism.

Right after the Revolution, the fight against idealism and the search for a materialist psychology made any objectivism welcome even if it was akin to mechanism. In this connection, Bekhterev's reflexology seemed satisfactory. However, as a more sophisticated approach to mental activity in general, and to consciousness, in particular, was needed, the success of Bekhterev's theories declined and his views were considered as hindering the development of a Marxist psychology.

The second reason for the reversal of attitude towards Bekhterev lies in the evolution of his theory itself. In his early works, he advocated an objective psychology which was directed against the idealist trend rather than psychology as such. In line with this, he had devised methods which were considered necessary for a materialist psychology, including the technique for motor associations which was praised for its use in the objective study of the brain mechanisms. However, in the aftermath of the Revolution, Bekhterev turned to reflexology and expressed his dissatisfaction with psychology as such. Refusing to see a distinction between the new, objective and materialist trends and the old subjectivist psychology, he opposed psychology per se in a number of papers and Congresses (Bauer, 1952: 56). Reflexology became even more incompatible with Soviet ideological demands when Bekhterev claimed that his study of the associative motor reflex did not relate to a direct study of the functioning of the brain (Rahmani: 16). In this, he was implying in a paradoxical fashion that the brain is not accessible to any objective study. Moreover, he introduced the concept of developmental reflexology where volition, feelings, memory, etc. ... were considered as little more than metaphysical concepts. Thus he was at odds with the Marxist claim that mental phenomena are a reflection of the objective world.

Perhaps the most flagrantly anti-Marxist of Bekhterev's views which elicited the official furor against him, lies in his reduction of matter and the psyche to energy. Having suggested that both matter and mind evolved from energy, he attempted the mechanical extrapolation of physical laws to psychic as well as social phenomena. Moreover, the psyche was viewed as spread in the form of energy over the whole world. These views were rightly taken as a denial of the dialectical materialist belief in the material unity of the world[5] and a 'metaphysical' interpretation of the concept of matter.[6] Lenin (1909) had already attacked Ostwald for his belief in the existence of energy beyond material and mental phenomena, a belief which Bekhterev recalled as a support for his claim. Rahmani (p. 17) says that according to Budilova

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[5] See Part One, Chapter I.
[6] See Part One, Chapter II.

(1960), Bekhterev's early works implied this theory. But in later works, however, when he attempted to present his views as being Marxist, he ran into strong and unavoidable attack.

It is worth mentioning that the current attitude towards Bekhterev is one of respect and admiration. He is recognised as one of the founders of materialist psychology in Soviet Russia. In his 1979 survey, Lomov refers to Bekhterev as "an outstanding scientist of the time and a man of deep social involvment" (p. 70).

B. Kornilov and the Requirements of a Marxist Psychology

As we have mentioned already, Konstantin Nicholaevitch Kornilov (1879-1954) was one of the two main leaders of the attack on "idealism in psychology" between 1917 and 1924.

Towards the middle of the nineteen twenties, Kornilov became a fierce opponent of Bekhterev on account of the latter's attempt to reduce the data of psychic processes to the laws of physics and biology. Kornilov attempted to strike a middle note between the metaphysical slogan "No Physiology at all" and that of the positivists "Nothing but physiology" (Borovski, 1929). Beginning in 1923, Kornilov strove to formulate what he considered to be the most important propositions which must fundamentally underlie a truly Marxist psychology. In fact, ever since he took over the direction of the State Institute for Experimental Psychology in 1923, Kornilov headed the struggle which had started after the Revolution and which was mainly directed against the tendency in psychology which dominated in Moscow University. This tendency, Kornilov called "the metaphysical conception of empirical psychology" (Borovski, 1929: 178). It was characterised by its "study of mental phenomena independent of physiological processes, by means of introspection" (ibid.). According to Borovski (ibid.) who was himself one of Kornilov's collaborators, "the outstanding problem was to work out a form of psychology on principles of dialectical materialism, in opposition to the idealistic philosophy and to subjectivism in psychology". Thus, between 1926 and 1930, Kornilov's attention was directed towards the application of dialectical materialism to psychology (Rahmani: 26).

In 1924, at the Second Congress of Psychoneurology, Kornilov made the following points in a paper entitled "The Dialectic Method in Psychology" (ibid.):

(1) Marxism rejects the duality of mind and matter. Consequently, the psyche is not something opposed to matter, but a property of highly organised matter. Hence the necessity for a materialist monist position. And

hence his opposition to idealism in psychology.

(2) However, materialism is subject to two types of interpretations: naive materialism (or mechanistic, or vulgar), and dialectical materialism. Naive materialism reverts to idealism, and each identification of psychic states with physiological processes is in direct opposition to dialectical materialism.

(3) Also to be kept in mind are the basic principles of the dialectic: continuous variability in nature, universal connections between phenomena, development by leaps with transition from quantity to quality, universal determinism, and progressive development (London, 1949: 247).[7]

Reviewing the progress achieved by Soviet psychology during the ten years since the Revolution, Kornilov, in 1927, made the point that psychologists were still insufficiently aware of the full implications of Marxism for their discipline. According to Kornilov, Marxist psychology has to be (1) materialist, (2) determinist, (3) dialectical. While, to his view, the majority of Soviet psychologists adhered to the first two conditions, many psychologists were still reluctant to adhere to the principles of dialectics (Payne, 1963: 41). Just as the natural scientists

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7. See Part One, Chapter III.

were divided into "mechanists" and "dialecticians", so too psychologists were either extreme objectivists in their conception of human psychology and behavior or dialecticians (ibid.). By "dialectical", Kornilov meant the application of the dialectical laws as formulated by Engels,[8] to psychology. In his opinion, the major consequences of the application of the dialectic to the study of human psychology was the adherence to the principle of the irreducibility of the psychic to the physiological, as well as the acceptance of the role of subjective factors in human behavior (Kornilov, 1930: 268). In his defence of the importance of the subjective factors in human behavior, Kornilov drew heavily on the works of the Classics, particularly on Engels' Dialectics of Nature.

Speaking on behalf of Kornilov, Borovski (1929: 181) declares that:

> From the standpoint of the Soviet Institute of Experimental Psychology, psychology can be only dialectical, otherwise, a lapse into idealism or else into the other extreme - the complete mechanisation of human behavior - is inevitable.

The main representative of the "mechanist extreme" according to Kornilov was the reflexological school. A fierce opponent of Bekhterev, he objected to the latter's attempt to sweep away psychology in favor of a mechanised physiological model of man, and to reduce the data of psychic processes to the laws of physics and biology. As Kornilov saw it, psychology has to consider man as a social being who belongs to a certain profession and class. It should study man's reactions as the reactions of a social unit and the mechanisms of his behavior as mechanisms which are conditioned by social factors (ibid.: 180). Contrary to Bekhterev who rejected introspection altogether, Kornilov allowed this method a secondary role, recognising that observations obtained through its use serve to complement those obtained by objective methods (ibid.). However, as we shall now see, Kornilov's views were themselves strongly reductionist and mechanist.

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[8] See Part One, Chapter III.

a. Kornilov's Reactology

As his version of a Marxist psychology, Kornilov proposed reactology which was an attempt on his part to strike a middle note between subjectivism and extreme objectivism in psychology. He proposed to erect an entire system of psychology around the study of man's reactions to the stimuli and demands of his environment. He saw in his concept of reaction, the "dialectification" of psychology: the subjective state is the thesis, the reflexes are the antithesis, and the reaction is the synthesis. In his 1930 article entitled "Psychology in the Light of Dialectical Materialism", he defined reactions as follows:

> Reactions are a biosociological (it.) conception, under which it is possible to group all the phenomena of the living organism, from the simplest to the more complicated forms of human behavior in the conditions of social life. The reactions of man in connection with his social relations acquire a social significance. In this we observe the main distinction between psychology and physiology. The latter also studies the reactions of man, but studies them without any reference to his social relations, while in psychology these relations constitute the principal content of the reactions studied. This is why we regard psychology as a social science rather than a branch of natural science.
> (p. 268).

Thus, Kornilov defined human behavior as an agglomeration of reactions, and a result of complex relations of conflict or of reciprocal inhibition between reactions.

At first sight, Kornilov's system does not seem to differ from that of Bekhterev, Pavlov, or any other reductionist, since he also emphasised that the main object of psychological investigations must be man's external reactions to his environment. However, the difference as he saw it, lies in the fact that Kornilov attempted to take subjective factors into account in the study of human behavior. Thus, he distinguished between "reactions" and "reflexes". The reflex he defined as a "purely physiological conception" deprived of every subjective content, while "the conception of reactions includes, with the biological and formal quantitative elements inherent in the reflex, the whole wealth of qualitative, ideological content foreign to the conception of reflex" (ibid.).

Kornilov had subjects respond to various patterns of stimuli and various sets of instructions by pressing a key. On the basis of his experiments he distinguished three "formal quantitative facts in reaction". These are: rate, intensity and form (ibid.: 268-269). Using a chronoscope, a dynoscope and verbal reports, he measured the speed, strength and meaning of reactions respectively. On the basis of his experiments, he discovered four basic reaction types: the muscular active (quick and strong), the sensorial active (slow but strong), the muscular passive, (quick but of low intensity), and the sensorial passive type (slow and of low intensity) (ibid.: 273). Kornilov interpreted the difference in reaction time in terms of the psychodynamic principle of a monopolar expenditure of energy. According to this principle, a person simultaneously engaged in mental (central) and physical (peripheral) work does so to the detriment of one or the other activity. This principle was derived from two general laws of neurophysiology: (1) the law of inhibition between centers in the brain, and (2) the law of facilitation (ibid.: 275-276). Kornilov thought to have achieved a synthesis between the subjective and objective approaches in psychology. This was the purpose of his Manual of Psychology Presented from the Point of View of Dialectical Materialism which was published in 1925.

Despite Kornilov's relative recognition of the role of consciousness, there is a striking lack of psychological terminology in his works. For example, in his 1925 Manual, there were no chapters on sensations or perceptions. Feelings were viewed as instinctive-emotional reactions which act as indicators of the fulfillment or lack of fulfillment of vital needs. Will and voluntary activity, which Kornilov had been concerned with before the Revolution, were not mentioned at all. Kornilov merely spoke of the "concluding stage of a reflex act" (ibid.: 270).

For all his insistence on the role of subjective factors Kornilov's system remained fundamentally behavioristic. And although he incorporated verbal reports in his experiments, he still emphasised that "only the objective side of an experiment is sufficient guarantee of its authenticity" (ibid.).

The success of Kornilov's school was short-lived, for in 1931, reactology was condemned as an eclectic, anti-Marxist tendency.

b) The Official Evaluation of Kornilov's Views

According to his numerous critics, Kornilov never really achieved more than a programmatic declaration of principles. Between the grandiose aims of the contemplated Marxist psychology and the scanty program of its concrete content, there was a major contradiction. In 1930, the First All Union Conference for the Study of Man's Behaviour took place. Although it supported reactology, during the same year, and again in 1931, there was a critical discussion of reactology which the Communist Cell of the Moscow Institute of Psychology initiated. The feeling was that reactology lagged behind the development of Marxist theory in the biological and social sciences. It was concluded that Kornilov's theory was anti-Marxist; that he was an agnostic who sacrificed the Leninist Reflection Theory in favour of Kant's philosophy; that his theory was an eclectic mechanistic formulation based on psychological parallelism (London: 249) and that the journal which he edited, Pskikhologiya (Psychology) was not different from any other bourgeois psychological work (Rahmani: 28-29). Thus, Kornilov was found guilty of mechanism, which was considered a very grave mistake in relation to the practical task of educating the developing Russian proletariat (McLeish: 111). Moreover, his school was condemned as being eclectic. By this was meant that

Kornilov was not sufficiently critical of the methods and formulations taken from non-Marxist sources, as for example, the American school of human engineering which Kornilov greatly depended on. As a result, his theory of reactions was considered as an eclectic combination of Marxist principles with "mechanical and energetical" propositions. His attempt to relate reactions (which he viewed as energy processes) to inner psychic phenomena was regarded by his critics as smacking too much of mechanism and idealistic psychological parallelism (London: 249).

The condemnation of Kornilov's reactology was closely linked to the resolution of the Party Cell of the Institute for Red Professors in Philosophy and Natural Sciences, in December 1930. A number of statements he was responsible for were attributed to the influence of Bukharin, Plekhanov and Feuerbach and was seen as akin to psychological parallelism. He stated, for example, that "dialectical materialism ... takes these [psychic] phenomena only as the subjective expression of the physical and physiological processes taking place in the organism, and having their objective, external expression in movement"[9] (Kornilov, 1930: 263). This formulation was criticised because of its "anti-Leninist" character and because it does not consider the psyche as a reflection of the objective, external reality.

For all the aforementioned reasons, Kornilov was regarded as having failed, along with Bekhterev, to establish a "truly dialectical psychology - a psychology adequate to the demands of socialist construction -" (Quoted by London, 1949: 249).

On the reorganisation of the S.I.E.P. in 1931 Kornilov ceased to be Director. However he continued to do important work. In 1955, he was one of the founding editors of the first Soviet psychological journal Voprosy Psikhologii (McLeish: 111).

The current evaluation of Kornilov's work is more objective. In his 1979 survey, Lomov refers to Kornilov's writings as an important contribution to the development of Soviet psychology. Kornilov's address in 1923 is said to be "the historical milestone in the development of psychology on a Marxist basis" (Lomov: 68).

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[9] Kornilov quotes the following passage from Bukharin's attack: We regard psychic phenomena as one, but not identical with the physiological processes conditioning them. It is not without reason, therefore, that the school of dialectics regards psychic phenomena not as something supernatural or superimposed but simply as the other side of physiological processes (Kornilov, 1930: 263-264).

C. Pavlov's School of Conditioned Reflexes

Ivan Petrovich Pavlov (1849-1936) is beyond doubt the most illustrious and best-known representative of the Russian school of physiological psychology. During this period of development of Soviet psychology, his school was given consideration as a possible Marxist foundation for psychology. Unlike Bekhterev or Kornilov, he was to produce a long lasting and decisive influence on what was to be considered as the foundation of a truly Soviet psychology.

The son of a village priest, Pavlov was himself intended for priesthood and received his early education in his native Razan. In 1870, however, he abandoned the idea of becoming a priest, and attended the University of St. Petersburg where he spent four years up to the time of his graduation. In 1883, he received a doctorate in medicine and went abroad to study for two years. In 1890, he was appointed to the chair of pharmacology at the Military Academy of St. Petersburg, and five years later, he became professor of physiology, a position which he held until his resignation in 1924 (Payne, 1968: 12).

Pavlov was a student of the "father of Russian physiology", Ivan Mikhailovitch Sechenov (1829-1905) whose chief works, Reflexes of the Brain (1863) and The Elements of Thought (1878) were to produce a long lasting impression on Pavlov. Sechenov claimed that the human organism cannot exist outside its external environment and thus, any scientific definition of the organism must account for the environment which acts upon it. He considered the function of the mind as a result of constant stimulation of the nervous system. Consciousness, he believed, was a result of fuller elaboration of the functioning of the central components of reflex arcs. Sechenov viewed emotional states as capable of producing marked changes (both facilitating and inhibiting) of reflex functioning. Pavlov made further advances along the lines indicated by Sechenov and was the first Russian scientist to receive the Nobel Prize in 1904.

Pavlov's scientific career could be divided into four periods: From 1878 to 1888, he was mainly working on experiments on the circulation of the blood. From about the time he became professor in pharmacology (1888-1889), he was engaged principally in the study of the digestive glands. In the course of his experiments on the digestive glands, Pavlov discovered what he called "the conditioned reflex". From 1902 to 1927, he devoted his time to the study of the nervous system. And from 1928 until his death in 1936, he was mainly engaged in the study of the problems of psychiatry and psychopathology.

It is the third period of Pavlov's career that is of interest to us here, as it has a direct bearing on psychology.

In the course of his experiments on gastric secretion in dogs, Pavlov noticed that salivation occurred not only when food was present in the mouth of the dog, but also at the mere sight of the attendant who usually fed the dog. At first, Pavlov thought of these phenomena in purely psychological terms, referring to them as "psychic excitations" (Pavlov, 1963, Vol. 1: 37), or "psychic secretions" (*ibid*.: 62). He was soon, however, led to study these events from a purely physiological perspective and to return to "the role of a pure physiologist, i.e., of an objective, external observer having to do exclusively with external phenomena and their external relations" (*ibid*.: 62). Pavlov called these psychic relations, conditioned reflexes (*ibid*.: 42) to differentiate them from the unconditioned reflexes (e.g., salivation upon the presence of food in the mouth) which are inborn connections between the organism and its environment.

Pavlov stipulated the importance of the conditioned reflex: Being a mechanism through which the organism adapts itself to the changing conditions of the environment, (*ibid*.: 372) it is characterised by its extreme mobility. Almost any neutral stimulus can become a signal for an unconditioned stimulus. Moreover, if the conditioned reflex is not reinforced, it ceases to elicit the reflex. The formation of the neural connections involved in the elicitation of the conditioned reflex is the work of the cerebral hemispheres. Both conditioned and unconditioned reflexes establish the connection of the organism with its environment and serve to maintain a state of equilibrium between the two. (ibid.: 354). Whereas higher nervous activity is involved in the establishment of this connection, lower nervous activity realises the integration and interaction of the various parts of the organism. The first signalling system constitutes the stream of stimuli which come from the external world and which signalise those objects which are vital for the survival of the organism. As such, it is common to both man and animals (ibid. Vol. 2: 113-114). However, in man there is a second line of signals made up of words. Words constitute signals of signals because they do not directly signalise reality but rather the data for the first signalling system. Pavlov called this the "second signalling system". It is the "very last attainment of the evolutionary process". (ibid.) In 1935, Pavlov wrote:

> To an animal, reality is signalled almost exclusively merely by the stimulations which ... converge directly to the special cells of the visual, auditory, and other receptors of the organism. This is what we likewise possess in the form of impressions, sensations and conceptions of the environment ... This first system of signalling reality is the same in our case as in the case

> of animals. But words have built up a second system of signalling reality, which is peculiar to us, being a signal of the primary signal. The numerous stimulations by words have, on the other hand, removed us from reality, a fact we should constantly remember so as not to misinterpret our attitude toward reality. On the other hand, it is nothing other than words which made us human. However, it is beyond doubt that the essential laws governing the work of the first system of signalling necessarily regulate the second system as well, because it is work done by the same nervous tissue.
> (_Ibid_.: 179).

It seems that the main point which distinguishes Pavlov from other workers in the area of higher nervous activity at the time is precisely his declared materialist standpoint in relation to thought and language. According to Pavlov, it is the second signalling system which constituted the most important area common to both psychology and physiology, and the point at which the legitimate marriage of psychology with physiology should be consummated.

However, although his investigations proved to be successful in establishing an objective method in psychology, one could ponder on whether Pavlov ends up by denying any distinction between psychological and physiological events. There is no doubt that Pavlov's views imply a type of reductionism and mechanism. For him, the second signalling system is that which primarily distinguishes man from the brutes. And this system, according to Pavlov, and as we saw, is not common to man and the brute. In some places he called the conditioned reflex "an elementary psychic phenomenon", while sometimes he referred to it as "a purely physiological phenomenon" (1963, Vol. 2.: 167-168).

In his "Reply of a Physiologist to Psychologists", Pavlov openly declares that "uniting, identifying the physiological with the psychological, the subjective with the objective ... is the most important scientific task of our time" (Quoted by Wetter, 1959: 479). Thus, it seems that Pavlov's conception of the relationship between psychic and physiological events are mechanistic in the extreme. And we agree with Payne's comment (1968: 16) on this question: "It is certainly nearer the truth to say that Pavlov was a mechanist and not a materialist than to say that he was a materialist but not a mechanist".

Before dealing with the official appreciation of Pavlov's views during the nineteen twenties, a few words can be said about his theory of psychopathological states in man. In the course of his experiments on the regulation of the behavior in the cortex, Pavlov noticed that inhibition travelled at different speeds over the cortex, in different dogs, but remained the same for each dog as a kind of natural constant. These differences Pavlov related to different kinds of nervous systems. Using a Hypocratic classification, Pavlov distinguished four types of nervous system: The sanguine, the melancholic, the choleric and the phlegmatic (McLeish: 116). Using this concept along with those of excitation, inhibition and traumatic factors (desertion, stress situation, etc...), Pavlov thought to throw light on neuroses and psychoses in man, interpreting them from a purely physiological standpoint. Schizophrenia he interpreted as a result of a weakness of the cortical cells. Likewise, hysteria is accounted for in terms of a weak nervous system, by virtue of which the person lives an emotional life directed by the sub-cortical rather than the cortical centres. He succeeded in creating an experimental "neurosis" in dogs by inducing excitation and inhibition in a simultaneous manner (_ibid_.: 116-117). It goes without saying that even though Pavlov extended his theories to man, he consistently condemned psychological methods, including introspection. As W.H. Gantt (Vol. 1: 129), in his 1963 edition of Pavlov's _Lectures on Conditioned Reflexes_, commented, Pavlov treated the subjective physiologically, a state of affairs which is not very surprising after all since Pavlov was above all a scientist, a physiologist committed to an objective standpoint and distrustful of anything which could not be submitted to mathematical analysis.

The Official Evaluation of Pavlov's Views

Pavlov's theory was favourably regarded by the Bolshevik government as early as 1921, when Lenin signed a special decree, on January 24 of that year, for the establishment of Pavlov's Laboratory of Higher Nervous Activity. There are several reasons for the special role which, unlike Bekhterev, Pavlov was to play in the formation of Soviet psychology.

First, we can mention the growing enthusiasm at this time, for natural science in general and neurophysiology and biology in particular.[10] By appearing to offer a methodology for the study of the cerebral basis of the human psyche, Pavlov's work fulfilled the ideological demands of the time. The following statement quoted by Rahmani (p. 18) from Petrovsky's History of Soviet Psychology (1967), illustrates this point:

> By discovering the role of the higher areas of the central nervous system, the theory of conditioned reflexes ... indicates the way for solving the problem of the objective substratum of psyche, i.e., the problem of the level of organisation of matter, at which psyche occurs. Finally, the theory of conditioned reflexes offers an invaluable methodology for a scientific, Marxist, materialist psychology of man.

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[10] The studies of Lazarev (1923) and Ukhtomski (1925) were particularly influential in the field of comparative psychology from a biological perspective. Severtsov's Evolution and Psyche (1922) was particularly influential.

Second, unlike Bekhterev, Pavlov attempted no philosophical speculations and thus avoided ideological disputes. Staying aloof from theoretical discussions on the relationship of physiology to psychology, he preferred to remain in the field of experimental physiology (Payne, 1968: 41). Summing up his outlook in a speech delivered in 1931, he declared: "I am neither a materialist nor an idealist; I am a monist, or if one must commit oneself, a methodological materialist" (Quoted by Payne, 1968: 16). And although he defined consciousness as "nervous activity", he made it quite clear that he did not wish to "discuss this question from a philosophical point of view" (1963, Vol. 1: 221).

Thus, Pavlov was regarded as a "spontaneous materialist", a term reserved in Soviet parlance for those scientists who take a materialist standpoint but in no conscious, deliberate way. An editorial in Pod Znamenem Marksizma stated that "Marxism welcomes any creative attempt in every scientific area, if it corresponds to a materialistic, that is to say, scientific conception. Such an attempt in the area of psychophysiology is, for instance, the theory of conditioned reflexes" (Quoted by Rahmani: 18).

A third reason for Pavlov's central position in Soviet psychology of the nineteen twenties is his restraint from overtly attacking psychology. Although a number of his statements, probably made in the course of "extreme outbursts of rage" (Veer, 1967: 65), indicate his open scepticism concerning the scientific status of psychology,[11] he avoided theoretical speculations as we already mentioned, and even spoke of the "absurdity of a reconciliation between the subjective and the mechanical state" (1963, Vol. 2: 149). His criticism of psychology was readily interpreted as being directed against the "old" introspectionist schools. Anokhin, for example, postulated that Pavlov's original rejection of psychological concepts was more a matter of strategy than of his deep conviction that the investigation of subjective factors was irrelevant (Rahmani: 19).

Finally, Pavlov's extension of his theory on conditioned reflexes to the area of thought and language could account for his privileged position in Soviet psychology. His claim that words form a special system of conditioned stimuli capable of signalling all the other stimuli led to extensive work in psycholinguistics, especially after the 1950 Pavlovian Conference which will occupy us in chapter three. Furthermore, this theory was interpreted as supporting the Marxist claim that thought and language reflect objective reality. (*ibid*.: 18).

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11. Pavlov said: "In fact it is still open to discussion whether psychology is a natural science or whether it can be regarded as a science at all" (Quoted in Payne, 1968: 64).

Pavlov's publication of the first collection of his writings in 1923 was celebrated in the political press with such titles as "the victory of materialism" (ibid.: 19). In 1924, after the Second Psychoneurological Congress, Pravda, the central organ of the Party said that the doctrine of conditioned reflexes was one of the foundations of materialism in biology. Izvestiia, another organ of the Party published a special laudatory article on Pavlov's theory (Bauer, 1952: 55). In 1928, Lenin's widow, Krupskaia wrote that the study of reflexes would allow the understanding of the relationship between material and psychic phenomena (ibid.).

Although the official appreciation of Pavlov between 1921 and 1929 (the year at which it was rejected, along with reflexology and reactology, as we will see in the next chapter) was favorable, Soviet psychologists had mixed feelings towards Pavlov's views. On the one hand, they felt that his physiological approach threatened the existence of psychology as an independent science, and on the other hand, they used some of his statements to strengthen their own position. Kornilov, for instance, was overtly critical of Pavlov's theory in 1924. However, three years later, he was declaring that Soviet psychologists regarded the physiology of higher nervous activity as greatly relevant to their own work (Rahmani: 19). It is very probable that Kornilov was paying lip-service to the positive appreciation of Pavlov's view by the state. However, there is no doubt that Pavlov did win a number of disciples, especially amongst his students. Some of these eager disciples picked up scraps of psychological information with which they constructed a systematic Pavlovian psychology, of information which was only marginal for Pavlov himself. Nevertheless, although Pavlov's theory was viewed as providing, at last, a physiological explanation for the various laws of association formulated in the 19th century, his reduction of all psychic phenomena to the conditioned reflex was generally frowned upon (London: 250).

Because of the unique position Pavlov was to hold in Soviet psychology after the Pavlovian conference, as we shall shortly see in the next chapter, very little information is given in works on the history of Soviet psychology concerning the details of the rejection of Pavlov's teachings in the course of the mechanist controversy between 1929 and 1931. An article written in 1929 by a member of the S.I.E.P. seems to be rather cautious in its declarations against Pavlov's school:

> The immense authority and widespread face which our academician Pavlov very justly deserves in our scientific world forces the audience to be deeply interested in all true excellent work which we owe to the Pavlov school. But

> this same excellent work, involuntarily, produces an especially trustful and not very critical attitude towards everything, in general coming from physiological spheres; such is the attitude towards certain exagerations for which some of the academician Pavlov's co-workers are to blame.
>
> (Borovski: 179).

D. Vygotsky and the Plea for the Study of Consciousness

Lev Semenovitch Vygotsky (1896-1934) made his first appearance as a psychologist in 1924 at the Second Congress of Psychoneurology. His address to the conference, an address which appeared as a written version in the book Psychology and Marxism (1925) edited by Kornilov, constitutes a historical landmark and a theoretical discussion of unusual contemporary value to psychology. In fact, Vygotsky's paper entitled "Consciousness as a Problem in the Psychology of Behavior" is a defence of consciousness against Marxists of extreme mechanistic inclinations who wanted to exclude it as a topic of investigation.

While maintaining the view that psychology should deal with objective data, Vygotsky rejected the major views of the behaviorists of the nineteen twenties. He agreed that consciousness should not be regarded as a special property of the soul, but he insisted that it is an essential property of man, a property which mediates his experience with the outside world and distinguish him from animals. Vygotsky used as an epigraph to the written version of the speech he made at the congress, a quotation from Marx which was to become the point of departure of his later writings:

> A bee in her construction of wax cells puts to shame some human architects. But even the worst architect differs from the best of the bees from the very outset because before constructing a cell from wax he has already constructed it in his head. In the end of the work process a result is achieved, which even before the start of this process existed as an idea, that is, in the imagination of the worker.
>
> (Quoted by Rahmani: 39).

The paper made a relevant plea for the study of consciousness in Soviet psychology. Vygotsky rightly argued that if psychology ignores the study of consciousness, it shuns itself from access to the investigation of complex aspects of human behavior, as a result of which the dualism and subjectivism of earlier schools are retained (Vygotsky, 1979: 5). Vygotsky (ibid.: 6) argued that such aspects of mental life as speech and language had been neglected because of the avoidance of the study of consciousness and that it was precisely this lacuna which prevented an insight into the essential differences between man and animals.

In 1926, he published the results of a series of experiments whose purpose was to show the importance of conscious attitudes in the control of dominant processes. He showed that subjects given proper verbal instruction could counteract the effect of an electrical shock and carry out a task which conflicted with the reflex evoked by the shock. At this point, however, Vygotsky was still close to behaviorism and rejected introspection as a legitimate method of psychological investigations. However, he argued that man's behavior cannot be studied independently of his mind, and that to view the psyche as an epiphenomenon is an absurdity (Rahmani: 39).

Vygotsky undertook a critical analysis of various trends in Russian psychology, in particular of what he labeled "explanatory" and "descriptive" psychology. The former tended toward physiology and took natural science as its model, and the latter retained vitalistic and idealist methods in its attempt to study man's inner world (ibid.: 40). On the one hand, Pavlov and other natural scientists had succeeded in establishing a material basis for fundamental psychological processes. However, the reflex arc offered no adequate system for studying the complex psychological activities that traditionally formed another main concern. On the other hand, psychologists who studied these complex functions found themselves restricted to verbal descriptions based on introspection, a fact which was incompatible with Soviet scholars' ambition for a materialist, objective psychology. Vygotsky concluded that the very foundation of psychology had to be rebuilt. In his view, consciousness, by which he meant that system of relationships between psychical functions, should constitute the main subject matter of Soviet psychology (ibid.). Together with his co-workers, Luria and Leontyev, Vygotsky proposed the theory of cultural historical development of psychic functions, to which he was led by his interest in the conscious elements in behavior.

However, and in spite of Vygotsky's efforts, the problem of the study of consciousness had to wait till the following decade. Neither reflexology nor reactology could cope with it. Vygotsky's voice, together with that of his collaborators was only a single, isolated attempt to redefine Marxist psychology on new, original lines. As such, his theory stands out as a distinct endeavour which bears little resemblance with the dominant mechanistic trend of the twenties. Moreover, unlike Kornilov and Bekhterev who were active before the Revolution, Vygotsky's first appearance as a psychologist dates from 1924.

Although Vygotsky's views were the object of strong criticism during the twenties, the official appraisal (rejection) of his views did not take a definite shape until the middle of the nineteen thirties, after the publication of his Thought and Language (1934). Thus, although Vygotsky's cultural historical theory belongs here, because of the aforementioned reasons, however, we will deal with it, as well as with the official attitude towards it, in the next chapter.

E. Pedology and Industrial Psychology

The study of the mental development of the child was one of the major areas of Soviet psychology in the nineteen twenties and early nineteen thirties. In 1925, P.P. Blonsky (1884-1941) published a work entitled *Pedology*. This science was defined by him as the study of age syndromes and that of the growth, behavior and constitution of the child throughout the various stages of his development. In Blonsky's view, pedagogy was the applied science which made use of the pedological findings.

Pedology came to be essentially an adaptation of ideas borrowed from Western educational psychology with its methods of testing assigned to determine the level of intelligence and ability of the child. The principal factors determining the psychological development of the child were considered to be heredity and environment. Soviet psychologists were divided amongst themselves as to which factor was the predominant one. The "biologists" (Blonsky, Arjamov, etc...) believed that the inherited biological factors were the determining elements in development, whereas the "sociologists" (Basov, Vygotsky, Molazavij, etc...) put emphasis on the social environment. A third group, the "biosociologists" attempted to attribute an equal importance to both factors (Payne, 1968: 48).

Pedology as a science attained the peak of its popularity in 1928, date at which the First Russian Congress of Pedologists was held. However, during this Congress, pedology did not go entirely unopposed. Kornilov, for instance, came out strongly against "testology" claiming that tests lacked firm scientific substantiation. Attacks on pedology augmented in the course of the methodological discussions which took place in the early nineteen thirties. Surprisingly enough, however, it managed to survive and more than that, to flouish until its official condemnation in 1936 (ibid.).

Like the pedologists, the industrial psychologists derived most of their theory and techniques from Western psychology, and like the pedologists made much use and abuse of ability and vocational tests. The chief industrial psychologists during this period were I.N. Shpilrein, and S.G. Gellershtein. The fate of industrial psychology was closely linked with that of pedology. During the 1929-1931 discussions, it was denounced along with its twin discipline, pedology, on account of its eclecticism (Bauer, 1952: 60).

CHAPTER II

ATTEMPTS TO BUILD A DIALECTICAL MATERIALIST PSYCHOLOGY

1929-1950

Introduction

The materialisation of Soviet psychology was the work of the 1917-1929 period discussed in the first chapter. The second period of development of Soviet psychology, from 1929 to 1950, achieved, or attempted to achieve the incorporation of the principle of dialectics, Lenin's theory of reflection and the principle of training in the child's development, in this order. We have divided this period into three phases.

Phase one which we entitled the mechanist controversy lasted from 1929 to 1931 and constituted a turning point in the history of Soviet psychology. During these two years, and as a result of the mechanist-Deborinist controversy on the philosophical front, a controversy which led to the condemnation of the mechanists, the Center of Research of the Moscow Psychological Institute was giving great attention to problems of social and collective psychology. This increased interest in applied psychology, coincided with the introduction of the First Five Year Plan (1929-1934). At the same time, the Communist Academy, which is the organ of the Central Committee of the Party, organised a series of discussions whose aim was the introduction of dialectics into all behavioral sciences. In light of what was happening during this time in the Soviet Union, it was clear that the régime was moving to establish tighter control over psychology. By 1931, Soviet psychology was brought in a more direct fashion under Party control.

Due to the condemnation of mechanism and the ensuing psychological discussions, the principle of dialectics and Leninist theory of reflection were established in Soviet psychology. Reductionism and mechanism were no longer officially acceptable. Thus, Bekhterev's reflexology disappeared, and Pavlov's work on conditioned reflexes became progressively more clearly defined as physiology. The previous attempts to replace psychology by physiology greatly decreased. The period between 1930 and 1936 was a period of heavy criticism in which all the available schools were closely examined to determine their degree of conformity with Marxist-Leninist principles. The relatively broad tolerance accorded during the previous period to theoretical discussions was replaced by heightened Party vigilance and sometimes, by direct interference in philosophical discussions. During this period, two achievements can be singled out for discussion. First, Vygotsky's cultural historical theory which constituted an original attempt to redefine psychology on Marxist grounds; second, the 1936 decree against pedology which marked the end of the 1930-1936 transitional phase in Soviet psychology. Leontyev's contributions will be briefly dealt with.

The third phase of this period, extending from 1936 to the Pavlovian conference in 1950, was characterised by relative calm. No major discussions occurred during this period except for a number of smaller debates which took place after 1936 in which individual theories were criticised for their lack of adherence to the new trends in psychology. However, after 1936, it was considered that all major theoretical discussions had been solved for the time being. In this phase, we will briefly outline the general status of psychology from 1936 to 1956. We will also deal with Rubinshtein's views which mark the final definition of the line which evolved out of the 1936 decree and which remain the most adequate statement of that line.

1. The Mechanist Controversy:
1929-1931

A. The Mechanist Controversy in Philosophy

Mechanism in one form or another was the dominant trend in Soviet philosophy during the decade following the Revolution. The term "mechanism" was applied, during the twenties, to writers of dissident opinions, such as O. Minin, I.I. Stepanov, V. Bukharin, etc..., who, nevertheless shared in common a number of anti-philosophical views. Minin, for instance, in an article entitled "Philosophy Overboard" (Payne, 1968: 43; Joravsky, 1961: 96) denied philosophy any right to existence, as did Stepanov (ibid., Payne). These thinkers exhibited a strong positivist tendency, favoring a complete dissolution of philosophy into the positive sciences. In the words of Minin (1922):

> PHILOSOPHY IS A DROP OF THE BOURGEOISIE. Not idealist, not metaphysical philosophy only, but precisely philosophy in general, philosophy as such... In a word, the proletarian retains and must retain science, only science, but no kind of philosophy. SCIENCE TO THE BRIDGE - PHILOSOPHY OVERBOARD.
> (Quoted by Joravsky, 1961: 96).

Moreover, Minin and other representatives of the mechanist trend believed in a radical form of determinism which had its origin in the concept of the automatic movement of matter. Thus, they rejected the notion of motion from within claiming the origin of motion lies in outer impulses. Furthermore, they neglected the concept of dialectics and objected to the concept of the emergence of new qualities in reality, postulating that all change is quantitative. In short, the mechanists attached more importance to the materialist aspect of Marxism (Bochenski, 1963: 35).

Up to 1925, the mechanists, representing the ideas of the average, militant Communist, dominated the philosophical scene. However, in 1925 a strong opposition arose against the mechanists by a group of philosophers at the Communist Academy headed by Deborin. The so-called Deborinists, who represented the opposite extreme of the mechanists' views gave particular prominence to the dialectical aspect of Leninism. They upheld the autonomy of philosophy and insisted on the necessity of aligning the natural sciences with the principles of dialectical materialism. Emphasising the importance of the dialectical leap as a concept which accounts for the evolution of matter from the lower to the higher, the Deborinists strongly criticised their opponents' reductionism (Payne, 1968: 44). In their struggle against the mechanists who relied heavily on the data of natural science, the Deborinists drew heavily on the works of the Classics, especially Engels and Lenin. They were further aided by the publication of Engels' Dialectics of Nature in 1925 and Lenin's Philosophical Notebooks in 1929.

The mechanist-Deborinist controversy is one of the most complicated chapters in the history of Soviet thought. It is not our purpose here to give a detailed account of the debate through all its convolutions. One of the main sources of confusion lies in the fact that the mechanists as such never really existed as a coherent group. The term "mechanism" as we mentioned already, was applied after 1929 to scientists and philosophers of varying opinions (Payne, 1968: 45). Another source of confusion resides in the fact that both the mechanists and the Deborinists were imputed political alignments. The mechanists were linked to a right wing-wing deviation and the "Menshevising idealists" to a left-wing deviation (Trotskysm) (Bochenski, 1963: 36; Payne, 1968: 45).

In April 1929, the Second All-Union Conference of Marxist-Leninist Scientific Institutes was held in Moscow. The Conference which was to discuss the mechanist-deborinist controversy, was attended by members of the Communist Academy, the Lenin Institute, The Marx-Engels Institute (Payne, 1968: 45). It represented a complete victory for the Deborinists. Mechanism was condemned and declared to be "a clear deviation from the Marxist-Leninist philosophical position" (ibid.). On April 24, 1930, Deborin and his followers scored another victory, but they were already on the defensive. On December 9, 1930, Stalin made a speech in which he qualified Deborin's tendency as "menshevising idealism" (Bochenski, 1963: 36). Throughout 1930, there took place among Soviet philosophers many discussions whose aim, at Stalin's suggestion, was twofold: (1) The liquidation of anti-Marxist idealism on the one hand and "vulgar materialism", on the other and (2) The development and exploitation of the "philosophical heritage" of Lenin (London: 255).

On January 25, 1931 the Central Committee of the Communist Party issued a decree with a joint condemnation of mechanism and Deborinism (Payne, 1968: 45). The Deborinists were accused of: (1) Uncritically adopting Hegel's dialectic, (2) lacking partisanship in philosophy, and (3) failing to subject Hegel's dialectic to a materialist interpretation in the spirit of Marx. The 1931 condemnation left, however, the main Deborinist thesis intact, namely that higher order phenomena cannot be reduced to those of a lower order (ibid.).

Although the debate in psychology was relatively independent of the mechanist struggle in philosophy, the defeat of mechanism had serious repurcussions in all fields of Soviet science. From 1930 to 1932, a large number of discussions were in evidence in Soviet psychology.

B. The Mechanist Controversy and Psychology

The condemnation of mechanism in philosophy led to a summing up of the criticism of the various psychological schools which we discussed in the previous chapter, and brought to an end the dominance of mechanism in psychology.

Like their counterparts on the philosophical front, the mechanists in psychology (especially Pavlov, and Bekhterev) favored the dissolution of the latter into the positive sciences. However, this view, which was condemned with the condemnation of the mechanists in philosophy could no longer be accepted. In January 1930, the Society of Materialist Psychoneurologists of the Communist Academy held the First All-Union Conference on Human Behavior to discuss the implications of the philosophical discussions for psychology. The conference established the Engelian principle of the irreducibility of psychic phenomena to the laws of physiology (Payne, 1968: 46), and indicated steps to be taken in the redirection of Soviet psychology on a Marxist basis. There was a call for a heightened sense of "Bolshevik Party-spirit" in Soviet psychology, and the orientation of Soviet psychology in a direction which would fulfill the urgent demands of "Socialist Construction" (London: 256). Consequently, there arose a sharp reversal of attitude towards foreign psychological systems. In earlier years, many psychologists were inclined to consider foreign schools of psychology as providing the last word in psychological thinking". But this was no longer acceptable. It was declared during the 1930 discussions that to follow the lead of any of the major trends in foreign psychology such as Gestalt and behaviorism would lead to a blind alley with no hope of escape. At the same time, great importance was attached to the necessity for psychology to meet the pressing demands of real life through applied practice in order for it to claim recognition as a science built on Marxism-Leninism. Only by solving those problems generated out of the very demands of "Socialist Construction" was it possible, so it was claimed, to establish in psychology a genuinely scientific theory (London: 256).

It is to be mentioned that the publication in 1929 of Lenin's Philosophical Notebooks, along with a new rise of interest in his Materialism and Empirio-Criticism, had a decisive influence in the fundamental reorientation that took place in Soviet psychology. Thus, a new element was added to the discussion with the conviction that without thoroughly accepting the Leninist Reflection Theory, the construction of a Marxist psychology would not be feasible (*ibid*.; Payne, 1968: 47). This theory was said to: (1) Underline the special nature of the psyche, (2) emphasize the active role of the psyche as the directive component in human behavior (Payne, 1968: 47), and (3) establish the means for substantiating, on a materialist basis, the notion of psychology as the science of man's psyche (London: 256). This notion was declared to be in direct opposition to the notion of psychology as the science of man's behavior seen as an agglomeration of reactions (*ibid*.).

Accordingly, behaviorism in all its forms: Reactology, reflexology and Pavlovian psychology, collapsed under the vigor of the concerted attack to which it was submitted. The resolution decreed by the General Assembly of the Communist Cell declared that neither the concept of reflex, nor that of reaction were acceptable to Marxist psychology for the following reasons (Rahmani: 29):

(1) They are based on the equilibrium theory which is an anti-dialectical vulgar mechanist view which ignores the process of self motion as the origin of change.

(2) They imply a reductionist view of the complex psychical processes, assimilating them with simple responses to stimulation

(3) They do not regard man as the product of historical development. Rather, they approach him in an abstract fashion.

Reactology was heavily criticised for its failure to give due emphasis to the possiblity of modifying reactions through education, training and social change. As to Bekhterev's school, it was rejected on account of its attempt to reduce behavior, in a mechanical way, to elementary reactions of the organism, so that by their correct combinations, all properties of human activity, whether social or psychic, could be accounted for (London: 245). Moreover, Bekhterev's reductionism was said to open the door for spiritualism, and more specifically, to panpsychism: Consciousness, which is denied at the outset in the building of the "system", reappears in the form of 'energy' which is thought of as being spread throughout the universe (McLeish: 139).

Pavlov and Kornilov's "physiologism" and "biologism", defined as the attempt to reduce psychological phenomena on the human level of physiological or biological functions were said to be exemplified by Kornilov's following definition of the subject matter of psychology: "the psyche or consciousness is the subjective reflection of physiological processes" (Quoted by McLeish: 141). This formula was seen as the basic principle underlying the various versions of behaviorism, constructed by American psychology and their Russian "imitators". And naturally, the use of conditioned reflexes as a complete explanation of human behavior was rejected. The laws discovered by Pavlov at the "canine level" were, in principle, thought to be irrelevant in the study of the human psyche, and an obvious illustration of the methodological error of reductionism. Referring to the "impetuous generalisations of Bekhterev and others" and to the "hyperenthusiastic physiologists", Borovski (p. 180) sums up the content of the psychological discussions as follows:

> The dialectical materialist is constrained to prove to the non-dialecticians and anti-dialecticians that human behavior in all its specific complexity, conditioned as it is by social factors, cannot be mastered by physiology alone; he has to prove that all the qualitative peculiarity of human behavior would be lost through an attempt to resolve it into reflexes; that physiology and reflexology both have to deal with the human being, as a representative of the homo sapiens species, with "man in general", whereas psychology deals with men having certain habits and traditions, the ideology of their class, profession, level, etc., and last of all, that it is for this very reason that his object has to be studied by methods, perhaps similar, but still somewhat specific and peculiar.
>
> (*ibid.*).

In this view, Pavlov's rejection of introspection as a method of psychological investigation, as well as the rejection of introspection by the reflexologists and other "hyperenthusiastic physiologists" was rejected, as it continues to be at the present time. In the words of Borovski (ibid.), "the psychologist cannot do without introspection altogether, for the reason that he comes upon many of his most important problems by means of introspection".

Not only was behaviorism (in all its forms) declared inadequate, but its "reactionary", "political" character was brought to the fore. In 1931, Vedenov, summing up part of the discussions on reactology, declared:

> The whole reactionary character of [Behaviorism's] approach to man is quite in the open. Behold the ideal of capitalism - man, the automaton, a robot, whose actions one can compel as one wills! Behold the dream of Capitalism the world over - a working class without consciousness, without mentality, whose actions are ... subject to the training whims of the exploiter! That is why it is in America, in that bulkwark of contemporary capitalism, that this theory of the man-machine was so powerfully developed and so stubbornly maintained.
>
> (Quoted by London: 257).

Thus, the psychological discussions whose consequences we have been indicating set the final seal on the Russian "imitations" of American psychology considered as totally inadequate substitutes for psychology (McLeish: 141). In the early nineteen thirties the criticism of reflexology became a major topic in Soviet psychology. Ananev and Myasishetchev who had been Bekhterev's co-workers were among those who criticised reflexology (Rahmani: 15) which, in the words of Teplov, writing in 1947, was considered "vulgar mechanical materialism fast degenerating into idealism" (Quoted by McLeish: 113). Freudanism was also rejected for the reason that it was said to blur, in a fashion much like that of behaviorism, the vital distinction between biological and psychological phenomena (ibid.: 141).

Pedology and Industrial Psychology

Vedenov's above quoted statement throws light on two further developments of great importance which took place during the 1930-1931 discussions on mechanism. The first was in the field of industrial psychology and the second in the field of pedology, in the form of a decree concerning psychological testing in primary and secondary schools.

In the first case, "psychotechnic" was denounced for its remoteness from the practical problems of industrialisation in a predominantly peasant economy, and for the anti-democratic pre-suppositions on which it was based. In May 1931, the Conference of Psychotechnic and the Psychophysiology of work held in Leningrad, took decisions as to a new orientation of psychotechnic. As a result of these decisions, industrial psychology with its bourgeois influence was condemned at the Seventh International Conference of Psychotechnics held in Moscow in 1931 (McLeish: 145).

In order to understand this sudden reversal of previous policies represented by the decision to abolish industrial psychology, one must remember the actual circumstances which confronted the Soviet Union in the sphere of production at the time. We have to keep in mind the pressing demands of industrialisation defined by the first five-year plan and the decision to collectivise all means of production, distribution and exchange in the country. It must be recalled that the techniques and theories of "psychotechnic" which were mainly centered on problems of vocational selection had been tested out in factories and institutes devoted to industrial research and to the training of workers. Methods of selection and training of workers (or peasants to be transformed into workers) which were developed in countries with a large reserve of manual labor, an established system of apprenticeship as well as a pool of skilled and disciplined workers were found, by actual trial, inadequate for a country consisting mainly of illiterate and unskilled peasants moving to the cities and starting on the path of industrialisation.

For similar reasons, pedology was denounced in 1931 on the basis of its anti-Marxist character and its affinity with American "testology" which was said to serve the reactionary interests of capitalism. Tests were said to be used as a convenient weapon which brought about the desired selection of workers, to demonstrate the psychological inferiority of the unemployed, and to confirm the special gifted nature of the children of the exploiting class (Smirnov, 1961: 24). Thus, the 1931 decree on pedology ordered the Pedagological Research Institutes to center their efforts around the study and generalisations of experience and data gained by the "practical" workers in the schools. In other words, "bourgeois" pedagological psychology was no longer to be slavishly followed. The psychological laws and properties of pedagological situations were to be unfolded in the very course of the pedagological process itself and not apart from it (London: 260). However, pedology, officially frowned upon, surprisingly enough, continued to flourish until 1936 when it was proscribed in a special decree (as we shall see in the next chapter).

The crucial importance which the mechanist controversy had in connection with the evaluation of Soviet psychology was thus, to decide on the question of the essential truth or falsity of Marxism. As a means of summing up, we can say that during the 1929-1931 discussions, the major anti-Marxist errors which were stigmatised are: idealism, mechanical materialism, reductionism, dualism and eclecticism.

2. Transitional Phase: 1930-1936

Towards a Dialectical Psychology

Although the 1930 First All-Union Conference on Human Behavior had claimed allegiance to the principles of dialectics, the full implications of this proclamation of faith were not immediately realised. From 1930 onwards, Soviet psychologists tried to construct a theoretical framework for psychology which would incorporate the new developments in Marxist-Leninst theory. Although behaviorism and mechanistic, objective psychology were on the wane during this period, Borovski, the leading Behaviorist animal psychologist and Kornilov are said to have been accused of retaining their old views basically unchanged up to 1936. Moreover, Thorndike, the leading American behaviorist of the time was still being translated and used as a basic text in 1935 (Bauer, 1952: 118). In 1932, psychological journals reached a peak circulation. However, towards the end of the year, *Psychology*, *Pedology* and *Questions of the Study and Training of Personality* (the journal of Bekhterev's institute) all stopped publication. *Soviet Psychotechnics* ceased publication at the end of 1934. By 1935-1936, the signs that psychology was in a difficult position were becoming clear (*ibid*.: 120-121).

A. Vygotsky's Cultural Historical Theory

Beginning in 1928, the principle of development attracted considerable attention in Soviety psychology. This principle was formulated by a group of young researchers, among them Luria and Leontyev, headed by Vygotsky. The defense of consciousness and of the role of subjective factors which, as we have seen in the previous chapter, Vygotsky undertook in 1924, was given concrete expression in his theory of cultural historical development. The purposes which Vygotsky and his collaborators strove to achieve through this theory, were:

(1) To make the principle of development the foundation stone of a Marxist psychology

(2) To view this development in a dialectical way, i.e., to emphasize the qualitative distinctiveness of its various phases

(3) To explain man's psyche as the product of socio-historical evolution

(4) To discover the explanatory principle at work behind the higher psychic processes, such as memory, thought, speech, and voluntary attention.

Both Vygotsky and Luria agreed with the principle which views all elementary psychological processes as having their origin in reflexes. Nevertheless, they resisted the view that the more complex psychological processes can be reduced to chains of reflexes.

In his interpretation of those complex processes which make up human consciousness, Vygotsky (1977: 70-73) used Engels' concept of the role of labor in the evolution from monkey to man. Engels had postulated that the tools used by the primitive man transformed the animal mind into human consciousness, a view which Vygotsky expanded in his theory of mediation. He assumed that in the same way that the tools created by the primitive man led to a transformation of the functioning of human organs, so too, the tools of language which man uses are symbols of social origin, internalised by the individual who uses them for his own psychological purposes. The difference between a tool and a sign is one of orientation: while tools are oriented towards external objects, signs are directed towards man's actions themselves. Thus, we can see that with Vygotsky, the second signalling system, proposed by Pavlov, acquired a new dimension: the explanation of higher mental functions is no longer confined to a stimulus-response type of reflexes. For Vygotsky, the second signalling system provides the means whereby man creates a mediator between himself and incoming stimulations so that he can respond to them according to his own symbolic conceptions.

This original theory evolved in relation to the problem of the transition from basic mental functions to higher sociohistorical ones. In the words of Luria (1966: 68):

> The most important conclusion is that human psychological processes, however integral and indivisible, are products of historical development and possess a complex psychological structure. They are the result of manifold reflex activity formerly external in character and performed step by step, but have subsequently undergone gradual contraction and have been converted into those mental functions which we observe when we study the complex psychological processes of the child.

From this point of view, the development of processes to a higher level of complexity is not to be viewed as the result of a linear evolution of basic natural processes. To explain the attainment of higher mental processes, Vygotsky used the essence of the law of the negation of the negation: this according to him, this attainment, is due to changes in the very type of relations between the subjective and the objective world. This level carries a new set of relations, reflects them and is determined by them. Thus, as a result of the mediation link between the two worlds (the subjective and the objective) by a tool, the individual act of man achieves a new structure that reflects the new external relationships: the characteristics of the tool, the object of labor and the purpose of it, i.e., its product (Vygotsky, 1977: 69-73). Thus, opposed to Pavlov's view, "the second signalling system is not only a means of communication, but also a powerful tool for the formation of human conscious processes" (Luria, 1966).

With this new theory, Vygotsky was launched on a new path of research. His critical analysis of the psychological schools of his time had convinced him that their main error consisted in an attempt to study psychological functioning without any attention to development. It is Vygotsky, with his emphasis on dialectical development, who introduced the principle of historicism (already in germ in Rubinshtein's theory and later developed by Luria) in Soviet psychology: His studies of psychological processes always bore in mind their development in time, or more precisely, their development through phases, stages and substages.

> Once we acknowledge the historical factor of verbal thought, we must consider it subject to all the premisses of historical materialism, which are valid for any historical phenomenon in human society. It is only to be expected that on this level the development of behaviour will be governed by the several laws of historical development of human society.
> (Vygotsky, 1962: 51).

Thus, using a historical approach, Vygotsky and Luria applied the concept of mediation to the development of mental processes in children, especially to the role of language in development. Vygotsky saw the genesis of signs as a process of internalising the means of social communication. He outlined a genetic principle of cultural development according to which, during the social development of the child, each function appears twice: First on the social level, then on the psychological level; first as an interpsychical category, in connection with the interaction between individuals, second, as an intrapsychical category, in connection with the relation between other psychical functions of the child. There are three stages involved in the process of internalisation. Such is the case, for instance, with the development of speech in children:

(1) In the first stage, words express the relation of the child to objects

(2) In the second stage, the adult uses the relation between the word and the object as a means of communication with the child

(3) In the third stage, words become intrinsically meaningful to the child.

Thus, words and signs constitute a special type of social tool which allow man to gain control over the "lower", "natural" mental functions (Vygotsky, 1962).

Vygotsky carried out a number of investigations on the way in which children's concepts develop. Taking the Bolshevik view of the importance and leading role of instruction in the child's growth, he put forward the concept of "zone of proximal development". According to this concept, there is a discrepancy between actual performance and what the child is capable of doing with adult assistance. School instruction should operate in this area, determining the child's abilities so as to promote their growth.

a. Vygotsky as a Marxist Psychologist

Consistent with its goal for a materialist, objective psychology, Vygotsky's theory of internalisation meant that the source of human consciousness is located outside man. More than any other psychologist in that period, Vygotsky and his collaborators, Luria and Leontyev, laid the foundation of the Marxist approach to the psyche as a historical and developmental product. The whole mode of argument is inspired by Marx and Engels and can most correctly be referred to as the dialectical mode of thought. The origin of man's psychic functions, especially the genesis of speech as arising in the process of collective labor is directly derived from Engels. The use of the word, and the concept of reflection shows the influence of Lenin. Moreover, Vygotsky's claim that the development of consciousness in general and the development of specific cognitive functions in particular occur through mediation, allowed him to retain the concept of the material basis of behavior and at the same time to analyse human psychological functions as occurrences of complex mediated acts. Thus, Vygotsky was able to corroborate the dialectical materialist principle of transition from a lower level to a higher one through a dialectical leap which adds something new to each higher level of development. Furthermore, his concept of signs provided a resolution of the dilemma that existed in his time, between the biological and the introspectionist approach.

In brief terms, we can say that Vygotsky's cultural historical approach to consciousness, his interpretation of the latter from an evolutionary perspective, his insistence on the role of mutual interaction between subject and object during the child's development, his concern with the totality of phenomena, and finally, his attack of reflexology and Pavlovianism identify him with a genuine, dialectical Marxist psychologist.

b. The Official Evaluation of Vygotsky's Views

Unfortunately, the official evaluation of Vygotsky during the early nineteen thirties failed to recognise his contributions in building a dialectical materialist psychology. From the perspective of a dogmatic Marxist approach, his theory was regarded as heresy. Two years after the publication of his Thought and Language (1934), this book was suppressed and was said to be anti-Marxist (Rahmani: 44). Vygotsky's theories were labelled "bourgeois" and lumped in the same category as those of Durkheim, Levy-Bruhl and others. Moreover, he was accused, together with Luria and Leontyev, of exhibiting a failure in common with that of other Soviet psychologists of that period, which consisted of uncritically borrowing from the bourgeois psychologists.

Perhaps the true error which lost Vygotsky the favor of the official party at that time, was more likely to be due to the fact that his mode of expression did not resemble that of his contemporaries in the Soviet Union (McLeish: 121). In fact, he did not fill his writings with quotations from Marx, Engels, Lenin or Stalin, something which was very much practiced by those who wanted to prove their allegiance to Marxism without, however, elaborating in any degree of complexity the teachings of the Marxist Classics.

Also placed under heavy criticism was Vygotsky's widely known opinion that it was necessary to distinguish, in foreign psychological schools, between two different aspects: (1) The "factual" basis, and (2) "the theory constructed thereon". The denial of the second does not necessarily lead to the rejection of the first (London: 252). It was pointed out by Vygotsky's critics that even factual data is determined, as to its content, by theory, and that the view that an honest investigator can collect totally "objective" facts is a mere fallacy. Objectivity demands committment, the nature of which will alter the whole picture of the data, even at the observational level. It was for this reason, a supposed lack of partisanship, that Vygotsky's work on the formation of concepts in children was regarded as inadmissible from a Marxist perspective (*ibid.*). He was accused of the twin error of empiricism and eclecticism (McLeish: 122). Moreover, his theory of signs was said to leave the door open to idealism (Rahmani: 45). Rubinshtein argued, for instance, that the social factor was conceived by Vygotsky as an interaction between the adult and the child. However, consciousness seemed to be a direct expression of the individual's inner experiences, and not to be dependent on the object of people's actions. Thus, the origin of the development of the psyche appeared to reside in the interaction between subject and subject rather than in the interaction between subject and object (*ibid*.).

It took some twenty years for the official attitude towards Vygotsky and his associates to change favourably. Vygotsky's *Thought and Language* reappeared in 1956 (Bruner, 1962) along with a number of his other works equally suppressed under the Stalinist era. He is presently celebrated in Soviet psychology (along with his collaborators) as the man who recognised the historical determination of man's consciousness and intellect. In fact, his views form what is essentially the nucleus of the contemporary Soviet approach to cognition.

B. Leontyev's Contributions

A.N. Leontyev (1903), Vygotsky's student and collaborator, whose views were to be rejected along with those of his teacher in the nineteen thirties, has contributed significantly to the development of Vygotsky's theory. His 1940 doctoral dissertation on the development of the psyche, a monograph written in 1947 on the same topic, and an article written in 1945 on the childs' mental growth sum up his theory. His main thesis was that psychical processes represent a particular form of activity and derive from one's concern with external objects. The psyche is the result of the transformation of the material activity into an internal one, in the course of man's historical evolution (Rahmani: 47). Thus, Leontyev was at variance with Vygotsky when he proposed that the child's meaningful activity was determined, not by the interaction with an adult, but, rather, by the level of the child's mental development.

Leontyev defined the task of Soviet psychology in two major points:

(1) To define the structure of man's activity through an analysis between activity as a whole, and components of activity, namely, various actions and operations.

(2) To clarify the notion of meaning. This endeavour is a prerequisite to the understanding of consciousness as a reflection of the outside world.

For Leontyev, meaning and significance represent two different notions. Meaning is a generalised reflection of objective reality whereas significance is the reflection of the relation between the motive of the individual's activity and the object of this activity (ibid.).

Leontyev conceived of the history of human consciousness in the context of the structure of people's activity which, in turn, he thought of as an expression of the changing structure of society. Thus, in classless, primitive societies, meaning and significance coincided. However, they became distinct in the course of the dissolution of the homogeneity of primitive society and the establishment of social classes. This split was elicited by the alienation of the product of labor from labor itself which was performed by a small section of society. In socialist societies, the meaning and significance of things unite (*ibid.*: 48).

With this perspective, Leontyev approached the mental development of the child in terms of the development of his activity. Play, learning and work, constituting the three successive types of dominant activity, represent different types of relationships to the outside world. As such, they are also manifestations of different types of psychological activity.

Leontyev's views reveal a deep committment to the Marxist materialist concept of history on the one hand, and the dialectical aspect of Marxist-Leninist philosophy on the other. However, for the same reasons which discredited Vygotsky in the eyes of the state authority at the time, Leontyev failed to win the official approval of his views during the thirties. An added reason for this fact is perhaps due to his involvement, along with his teacher, in the pedological movement which was to be officially proscribed in 1936. At the present time, and ever since the end of the nineteen fifties, Leontyev (as we shall see in chapter four) is regarded in the Soviet Union as one of the founders of Soviet psychological theory.

C. The Decree Against Pedology

The 1931 decree on primary and secondary schools which we referred to earlier in this chapter, intended but did not succeed in effecting a clear-cut break with Western schools of educational psychology. In fact, applied psychology and the use of tests reached its peak in 1932, at which time the resistance of both parents and teachers against pedology started to take unprecedented proportions (Bauer, 1952: 120). In 1934, the opposition to pedology and psychological testing began to sharpen in Party circles (*ibid.*). By the end of that year, the journal *Psychotechnics* stopped publication (*ibid.*: 121). On July 4, 1936, the Central Committee of the Party issued an official decree which was to abolish this discipline in the Soviet Union (Bauer, 1952; Payne, 1968; Rahmani; McLeish).

A few words about the changes which were taking place in the Soviet Union at that time can help clarify the magnitude of the reaction against Pedology.

The years 1934-1937 were the years in which the Bolshevik régime devoted serious attention to the solving of the "human problems" which arose from the social upheaval due to the First Five Year Plan (Bauer, 1952: 122). While the social and industrial base of the old society had largely been destroyed, the "remnants of capitalism" still survived in the minds of the people. In 1933, Stalin was telling Party members:

> You as Marxists should know that in its development, the mentality of man lags behind his actual condition. In status, the members of collective farms are no longer individual farmers, but collectivist; but their mentality is still the old one - that of the owner of private property.
> (Quoted by Bauer, 1952: 122).

Problems of social control were increasing in every area. At the same time, the need for skilled personnel continued to increase. By 1935, Stalin declared that the critical need of Soviet society no longer consisted of material or organisational changes in industry and agriculture, but of trained cadres (ibid.: 123). The main motive behind the various changes which occurred during the mid-thirties on the social level as well as in the fields of pedology and psychology was the decision to bring all possible facilities of society in the service of training and controlling individual citizens. It is in this light that the changes which occurred in pedology (and consequently in psychology) with its unceasing testing and selective procedures which the country could not afford at a time when Cadres were the major decisive element, should be understood.

The Errors of Pedologists

The 1936 Decree on Pedological Perversions in the System of the Peoples Commissariat of Education accused pedologists of having perverted the educational process through their conception of the child's growth as basically fatalistically predetermined by heredity and environment. In fact, up to 1936, pedology remained that which it had been in previous years: The pedologists appointed by the Commissariat of Education continued to control admissions to classes and to group children on the basis of intelligence tests. The progress of the child was recorded independently of the teacher whose importance was undermined. It was pedologists who decided the pupil's profession upon leaving school. They assigned difficult and "backward" children to special schools with low disciplinary and educational standards. In this situation, where children were being streamed upon entering school in such a way as to create a socioeconomic bias and with a large number of them being declared backward or "difficult", there was considerable criticism in Party circles during the early thirties and before the final issuance of the decree (McLeish: 148).

In view of this situation, the decree declared pedology "a vicious pseudo-scientific bourgeois importation" (Quoted by London: 260) and discerned a reactionary character in the principles underlying it. Two reasons were singled out to justify this judgment: First, that the pedological laws unjustly presumed the fatalistic dependence of a child's destiny on some blind heredity and irrevocable environment; second, that these laws were a "howling contradiction to Marxism and to the whole practice of Socialist Construction, which was [seen as] successfully transforming people in the spirit of socialism and rooting out the remnants of capitalism in the economy and consciousness of men" (Quoted in ibid.: 261). Moreover, the method of testing proper to pedology was said to be a blatant mockery and insult against school children and in opposition to the real aims of Soviet schools as well as to common sense (ibid.).

As a ways of summing up, we can say that the points made against pedology in the 1930-1931 discussions were emphasized during the period surrounding the 1936 decree (Bauer, 1952: 124). These were:

(1) That test methods tended to perpetuate the existing class order

(2) That stressing the environment as the main determinant of the child's development could be a fatalistic and pessimistic endeavour.

The first of these two points reflect the embarassment of the régime from the persistent fact that children of peasants and workers performed relatively poorly on psychological tests.

Thus, to the two-factor theory favored by pedologists, a new element was added, namely, the insistence on the role of training in the development of the child. Thus, according to new three-factor theory, the child's development is determined by inheritance, environment as well as training (Bauer, 1952: 126). The resolution of the Central Committee decreed the restoration of pedagogy to its "rightful place", the removal of pedological textbooks from circulation, and the transfer of pedologists to the field of pedagogy as teachers (Payne, 1968: 49).

The publication of the decree on pedology marked the end of the transitional phase in Soviet psychology and the beginning of a new "dialectical" era.

3. The Dialectical Phase: 1936-1950

A. General Characteristics

Soviet psychologists (Smirnov, 1967: 26) and Sovietologists (Rahmani: 53; Bauer, 1952: 128, McLeish: 159; Payne, 1968: 51) agree that the 1936 decree was a turning point in the history of Soviet psychology. While Russian psychologists see it as the final break with bourgeois influence (Smirnov, 1967: 26), Western students of the history of Soviet psychology record it as a definite negative event. This is also the attitude of some Russian "emigrés", among whom we can mention Razran (1957: 95), who emphasized that the decree caused the sharp decrease of psychological investigations in the Soviet Union between 1936 and 1950.

One of the direct, concrete results of the 1936 ordinance was a complete abolition of questionaires, testing and especially intelligence tests. Another direct result was the dismissal of those psychologists who had ever used the term "pedology" in their works. Shortly after the decree, the editors of Pod Znamenem Marksizma called a meeting whose chief participants were Kolbanovski, Leontyev, Luria, Teplov, Galperin, Elkonin, Blonsky, Mitin and others (Bauer, 1952: 128; Payne, 1968: 51). The occasion was used for a renewal attack on Blonsky, Leontyev and Vygotsky whose works were suppressed (ibid.). Shpilrein and Zalkind, whow were heavily involved in pedology disappeared from the psychological scene and Shpilrein was sent into exile (because of his supposed trotskyst inclinations), where he carried on his research as a psychologist (Bauer, 1952: 128).

Another consequence of the 1936 ordinance, was perhaps more serious than the aforementioned immediate results. The point of fact is that the resolution on pedology inhibited the development of such areas of studies as reactology, Pavlovianism, Gestalt psychology, behaviorism, psychotechnic, pedology, social and forensic psychology (McLeish: 159). All the technical journals devoted to psychology as an independent branch of knowledge had been closed down between 1932 and 1936. Psychology as a professional discipline declined during this whole period when the Soviet Union was getting ready, by accelerated industrialisation and collectivisation of agriculture, to meet the 1941-1945 war of the Great Fatherland.

This does not mean that psychological research ceased altogether during this phase. Many research institutes were closed down but psychology continued to be a subject of instruction in universities and, especially, teaching training institutes. The main difficulty encountered by research psychologists was the lack of outlet in the form of periodicals or journals, for their research findings (McLeish: 159-160).

In general, the period starting in 1936 marks so big a shift from the previous period, that except for some minor fluctuations it could be considered as a unit (Bauer, 1952: 129). The variations which took place during this period were for the most part an intensification of the line which emerged from the 1936 decree. This new line emerged in 1938 when a group of psychologists under the leadership of Kornilov (who always managed to adapt himself to the new demands) published a series of articles which indicated the appropriate position for various fields of psychology, such as the subject matter of this discipline, the physiology of the nervous system, attention and memory. Bauer (1952: 128-129) reports that these articles included a bibliography with specific page references to the treatment of such topics in the classics of Marxism-Leninism. Shortly after that, this group announced that they were setting up an outline which would cover all topics of psychology from the position of the criteria established by the pedological decree. Shortly after, a program was produced which gave a detailed outline of the course of psychology to be taught in the teaching training institutes, and indicated the material to be covered in each section, the standpoint to be taken and the amount of time to be accorded to each topic (ibid.). In 1938, the first general text written after the decree (and edited by Kornilov) appeared. The authors of this text avoided the treatment of such controversial topics as mental development, talents, needs and abilities. Excusing the absence of chapters on these topics, they cautiously declared that they prefered "to leave a whole series of gaps - small or large - rather than include unverified positions" (Quoted by Bauer, ibid.). A few years later, Rubinshtein treated these topics in his Fundamentals of General Psychology, a book which marked the final definition of the line which emerged out of the 1936 ordinance. This work constitutes one of the variations (relatively speaking) which came to light during this period amidst the general, unified trends which characterised it.

A brief exposition of these trends seems appropriate here. With the approach of the second world war, there was more emphasis on the individual and his responsibility towards the state throughout the Soviet Union. In 1941 and 1942, character training was being stressed in education and educational psychology more than in the previous years. Such traits as "strength of character and loyalty" to the State were being given increased attention. After the war, in 1946, Soviet psychology began to show a heightened negative attitude towards everything foreign and bourgeois. During that year, a decree was issued by the Central Committee of the Party. This decree objected to the "exagerated reliance of Soviet scientists on foreign sources, and the failure to credit Russian scientists sufficiently" (Bauer, 1962: 5). At the same time, a tendency developed among psychologists to cite Soviet sources exclusively including the classics of Marxism-Leninism. Thus, pre-revolutionary and early Soviet psychologists were acclaimed as the true founders of "scientific psychology" (Bauer, 1952: 130). The old reflexological and reactological schools were no longer denigrated, and in general there was much talk of Soviet scholars being the most progressive agents in the development of science (Ananiev, 1948: 257).

In 1948, Ananiev, who was working in the area of neuropsychology and the history of psychology gave a lecture entitled "The Achievements of Soviet Psychology", where he stated that the Soviet System had created psychology anew, and transformed it into a real science (*ibid*.). Moreover, Ananiev outlined what he considered to be the six methodological dialectical materialist principles on which Soviet psychology (in contradistinction with bourgeois psychology) is built. These principles outlined by Ananiev are: (1) Psychological monism, (2) the theory of reflection, (3) the materialist determination of consciousness, (4) the principle of contradiction in development, (5) the unity of consciousness and activity, and (6) the class and historical character of psychic processes (*ibid*.).[1]

The six axioms outlined by Ananiev were illustrated by Rubinshtein's views, with which we will now deal.

B. Rubinshtein's Theory of Consciousness

By 1936, the main lines of dialectical psychology were established and Soviet psychologists attempted to provide an acceptable formulation which would fit the dialectical materialist principles established during the earlier periods of development of Soviet psychology.

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[1] See Part One of the present work.

Sergej Leonidovitch Rubinshtein (1889-1960) had already attempted such a formulation in an article published in 1934. However, as Leontyev noted in 1949, this article entitled "Problems of Psychology in the works of Karl Marx" had not received the attention it deserved (Payne, 1968: 49; Rahmani: 49). In it, Rubinshtein had already outlined the principles which were to become the generally accepted foundation of Soviet psychology during the nineteen thirties and forties. In this article, Rubinshtein made the following points:

(1) The crisis in psychology is in essence a crisis of the philosophical foundations of this science. A divergence of schools exist of which the prominent ones are introspection and behaviorism each having a different object of study. The task facing psychology is the reunification of the subject matter of this discipline.

(2) The reunification of psychology could be achieved through a redefinition of the concept of consciousness and behavior on the basis of the Marxian view of human activity. According to Marx, human activity is a dialectic of subject and object. Through activity the subject reveals itself and objectivise the inner world of experience. Man's consciousness is simultaneously the expression and guide of his activity. At the same time, man, by his activity, forms and develops his subjective world. This activity is

not only individual but above all social. Man's consciousness which guides his activity, originally developed in the process of social activity and as such, his activity is essentially social (Payne, 1968: 50).

As we can see, Rubinshtein's formulation was directly inspired from Marx and, as the title of his article indicates, it was founded on a careful analysis of those elements in Marx's works which are relevant to psychology. In this, Rubinshtein differed from most of his contemporary colleagues who merely used quotations from the classics in order to support their proposals for a Marxist psychology, even though these proposals had, in essence, nothing to do with Marxism-Leninism (such as Kornilov's school for example).

In 1935, Rubinshtein further developed the aforementioned ideas in his Fundamentals of Psychology, a work which was to provide the basis for his more elaborate work entitled Fundamentals of General Psychology which was published in 1940 and which provides the most comprehensive presentation of Soviet psychological theory in the years following the decree on pedology.

Thus, taking a step forward in developing Rubinshtein's views, the 1940 textbook of which a second edition appeared in 1946 formulated the following Soviet psychological principles:

(1) The principle of psycho-physical unity according to which the psyche is a function of its organic substrate, the brain, and the reflection of the outside world

(2) The principle of historicism according to which the laws of human psychology change with the development of man's social being. Socialist man is different from Capitalist man and there are no universal laws of human psychology

(3) The principle of the unity of theory and practice

(4) The principle of the unity of consciousness and activity (which we already outlined) according to which the content of thought derives from man's experience. Consciousness, which is a human attribute is shaped according to experience (Payne, 1968: 51-52; Rahmani: 50).

The Official Evaluation of Rubinshtein's Views

Rubinshtein believed that these principles had already underlined Soviet psychology. Writing in 1943, he said:

> The fundamental task was that of translating the general methodological theses into the concrete substance of a psychological theory. As a result of the theoretical and experimental work of the last years, the basic features of the system of Soviet psychology have already been formulated.
>
> (Quoted by Rahmani: 50).

As was the case at the time with many thinkers working under the Soviet régime, Rubinshtein's views knew a relatively short-lived success. The publication of his 1940 Fundamentals of General Psychology occasioned a wide range of discussions at the All-Union Conference for the Pedagogical Sciences (Rahmani: 49). In 1941, this work was awarded the Stalin Prize. However, in 1947, it came under heavy attack along with the new edition which had appeared of it in 1946. Moreover, the 1935 Fundamentals was also the subject of great criticism at the 1947 Conference of the Academy of Sciences of the U.S.S.R. (Payne, 1968: 51).

The condemnation of Rubinshtein's work was not an isolated event. In fact, it occurred after the suppression of Aleksandrov's History of European Philosophy[2] (1946) in 1947 and the Lysenko discussions[3] in biology in the same year (Payne, 1968: 51; McLeish: 195). Rubinshtein was the object of the same criticism leveled against Aleksandrov. He was accused of his uncritical "Anti-Marxist" evaluation of bourgeois psychology and of his lack of partisanship. Writing in 1948, Kolbanovski, applied to Rubinshtein, as well as to Leontyev, Zhdanov's criticism of Aleksandrov who supposedly failed to present the history of philosophy as the history of the struggle between idealism and materialism.

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[2] For details on Aleksandrov's condemnation in philosophy, see Bochenski's Soviet Russian Dialectical Materialism (1963).

[3] For a complete description of the Lysenko discussions, we refer the reader to Joravsky's Soviet Marxism and Natural Science (1961).

> The author does not criticize the psychological conceptions of various philosophers and psychologists but merely records their theory. Rubinshtein mentions only in a very general way the struggle between materialism and idealism. He does not criticize the reactionary conceptions of the modern bourgeois psychologists.... His work lacks that definite partisanship with which Marxists must approach the heritage of the past and the analysis of the theories produced by the ideologists of the modern bourgeoisie.
> (Quoted by Rahmani: 51-52).

Some more specific criticisms were made of Rubinshtein's views. It was claimed that although in words he admitted Lenin's basic theses (1) that the psyche is a product or function of the brain and (2) that it is a reflection of the conditions of the external world, he made the mistake of differentiating between two aspects of consciousness, namely, knowledge and experience, or the immediately given. This, it was claimed, implied the view that only knowledge is a reflection of the outside world, while subjective experiences are autonomous in their nature and "locked away" from the influences of the objective world. Moreover, the distinction between consciousness in the philosophical sense and consciousness in the psychological sense was said to mean the denial of the social nature of consciousness and of class ideology in the formation of individual consciousness. In this regard, Rubinshtein was said to have made the same mistake as Weissman in admitting two kinds of consciousness which shows the influence of Freud's notion of unconscious forces, and other "reactionary" psychologists (Rahmani: 52-53; McLeish: 196-197).

It should be remembered that Rubinshtein's work was condemned in a period when charges of "cosmopolitanism" were leveled in particular at intellectuals of Jewish origin. Soviet anti-Semitism, "ethoscidal" rather than "genocidal", began sometime in the late thirties and grew into immense proportions during the later part of Stalin's reign. Being Jewish, Rubinshtein was a perfect target of attack, because of the added fact that he was an intellectual (Razran, 1957: 96).

Despite the criticisms leveled against it, the Fundamentals of General Psychology still remains one of the classics of contemporary Soviet psychology. Writing in 1967, Smirnov claims that as a result of Rubinshtein's Fundamentals, "a milestone was reached in the development of Soviet psychological science" (p. 26). In any case, Rubinshtein's formulation of the principle of the unity of consciousness and activity is recognised as "one of the fundamental axioms of Soviet psychology" (*ibid*.) and "one of the most important achievements of Soviet psychology" (Lomov: 73), the importance of which "becomes especially clear when we compare it with the paradigm of behaviorism that has been developed in the West" (ibid.).

Although Rubinshtein's ideas lost something of the privileged position they enjoyed before 1947, Rubinshtein by no means disappeared from the psychological scene after the condemnation of his work. In fact, the period between 1950 and 1960 was the most productive of his life. After the Pavlovian conference in 1950, Rubinshtein revised many of his pre-Pavlovian ideas and produced a number of works on the philosophical problems of psychology. These works exercised a great influence in Soviet psychology of the fifties and the sixties as they continue to do at the present time.

CHAPTER III

THE PAVLOVIAN CONFERENCE AND ITS EFFECTS

1950-1956

Introduction

As we have seen so far, the acceptance of Marxism-Leninism as the foundation of Soviet psychology meant the successive incorporation of materialism, dialectics, and to a lesser extent, Lenin's theory of knowledge in psychological theory. These three doctrines remained the basic elements of Soviet psychology until a new element was added in the form of an insistence that biological sciences in general and psychology in particular must be established on the foundation of Pavlov's teachings and theories. This decision was a direct result of the famous Scientific Session on the Physiological Teachings of Academician I.P. Pavlov, known as the Pavlovian Conference. Ever since this conference, the ideas and methods of Pavlov have been part of the Canon of Soviet psychology and Pavlov himself achieved the position of a near classic (this situation, however, has somewhat been altered in recent years). In the Dictionary of Philosophy, we read:

> Scientific psychology proceeds from the Marxist-Leninist theory of knowledge and its natural scientific basis, the theory of reflexes in the

> psyche, propounded by Sechenov and
> developed by I. Pavlov.
> (p. 370).

Thus, the 1950 Conference took Pavlovianism and Leninism as the twin pillars of Soviet psychology. These two systems furnish the tools of conceptual analysis of psychological problems. However, the task of reconstructing psychology on the basis of Pavlovianism without deviating from the principles of dialectical materialism, was not a smooth one. Bearing in mind the reductionist elements in Pavlov's system, on the one hand, and the fact that this system was elaborated between the walls of a scientific laboratory, on the other hand, one can start to imagine the real "tour de force" necessary to achieve a union between this system and that of dialectical materialism with its anti-reductionist, philosophical claims. However, psychologists did try to achieve this union. Immediately after the Conference, they set about evaluating the significance of Pavlov's ideas for their science. The task was further complicated by the fact that for some twenty years they had been told that Pavlov's views were mechanist. Along with discovering the significance of Pavlov's teachings to the various provinces of psychological research, there arose the need or rather, the necessity to redefine the subject matter of psychology and to solve such related problems as those of the nature of psychic phenomena and their relationsip with physiological processes.

In this chapter we will outline the outcome of the Pavlovian Conference and the decisions taken in the course of it, then we will proceed to present Antonov and Arxipov's views on the aforementioned problems along with those of Rubinshtein who played a most significant role in the fulfillment of the new theoretical demands. We will further discuss his views expressed in 1955 and conceived as an attempt to establish a synthesis between Pavlovianism and the dialectical materialist principles. At the end of the chapter, we will briefly provide, in a tabulatory form, some evidence of the dogmatic tendencies which pervaded Soviet psychological writings during the late forties and after the Pavlovian Conference. Also, as a matter of setting up a framework for this chapter, we will briefly deal with Stalin's interference in linguistics (1950) which played a major role in the decisions taken on the Pavlovianisation of Soviet psychology.

1. Stalin on Linguistics (1950)

Before proceeding with our account of the Pavlovian Conference and the efforts made by psychologists to solve the philosophical problems of psychology which the Conference brought to the fore, it is important to mention an event which occurred in 1950, and which is seen by many a writer on Soviet psychology (Wetter, 1959; Rahmani; Bauer) as having greatly contributed to the reinstitution of Pavlov in Soviet psychology. This event, which we already referred to in our treatment of formal and dialectical logic in Part One of this work, is nothing else than Stalin's pronouncements on linguistics in the form of five letters, the first of which was published 3 days before the Pavlovian Conference. As we mentioned in chapter 4 (Part One), in this letter, Stalin attacked Marr's views that language and grammar are part of the superstructure and that under communism, all languages will disappear, giving rise to a new dialectical materialist language of thought, independent of speech. Stalin rejected Marr's claims and asserted that language belongs neither to the base, nor to the superstructure. Moreover, he affirmed that sonic language, namely the language of words had always been the sole means of communication. According to Stalin, thinking is not conceivable without language:

> The reality of thought is manifest in language no matter what thoughts occur in one's mind, or when they occur. They appear and exist only on the basis of linguistic material, on the basis of concepts and sentences.
> (Quoted by Rahmani: 210).

Stalin's declarations led, not only to the reinstitution of formal logic in universities along with dialectical logic, as we have already seen, but also to an upheaval in the field of linguistics and in every manifestation of Soviet intellectual life: "His five letters were received as though Karl Marx himself had risen from his last resting-place in Highgate Cemetery with a totally new conception of how the Soviet State should be managed" (McLeish: 201). Even before the last letters were published, the Philosophical Institute of the Academy of Sciences organised two conferences to discuss those already published, and during that year (1950) members of the Institute alone published about 50 articles and gave 350 speeches. On the anniversary of the first letter a conference was called which was attended by 1200 scholars (ibid.).

The effect which Stalin's pronouncements had in linguistics were deeply felt in the psychological sphere. It was realised during various discussions and debates that psychology must come to terms with Stalin's views on linguistics, and that Pavlov's second signalling system provided obvious links between a reconstructed Soviet linguistics and a reconstructed Soviet psychology.

As we have already mentioned in Part One, when dealing with the Leninist theory of reflection, Engels' theory which states that man developed from the ape in the process of labor, has been related to the development of the second signalling system. It was argued that this "characteristically human" bit of adaptive equipment, language, has evolved in true Marxist fashion as a result of man's active relations with his environment. By offering a "scientific" explanation of the process of language, on the one hand, and by placing this explanation in the context of the relationship between the environment and the human brain, Pavlov's views seemed to establish the missing link which had so far characterised the relationship between philosophical materialism and psychology as a science.

Evidence of Stalin's direct involvement comes from Bykov, one of the organisers of the 1950 Conference, who wrote: "The initiator of the event that have elevated the teachings of Pavlov in our country, the initiator of the creation of the most favorable conditions for the development of Soviet psychology [is] Joseph Vissarionovitch Stalin" (Cole, 1969: 8).

2. The Pavlovian Conference (1950)

The Pavlovian Conference was held jointly by the Academy of Sciences of the U.S.S.R. and the Academy of Medical Sciences of the U.S.S.R. and lasted from June 28 to July 4, 1950. This conference followed the hundredth anniversary of Pavlov's birth, an event which received a great deal of attention in the press and the academic world. "With the flood of anniversary literature, Pavlov was elevated to the position of a demigod of Soviet biological science" (Cole: 7).

The purpose of the six-day conference, in the words of the Academies, was to undertake "a critical and self-critical examination of how matters stand with regard to the development of Pavlov's legacy in the Soviet Union" (Quoted by Payne, 1968: 53). The declaration addressed to Stalin by the Conference affirmed that Pavlov's teachings "provide a scientific basis for the creative development of physiology, medicine, psychology, rational dietetics, physical culture and spa-therapy" (Quoted by *ibid*.). The significance of Pavlov's ideas for each of these scientific disciplines was dealt with in the course of 81 speeches and 51 written submissions presented at the Conference (McLeish: 203). During the six days of discussions, speakers proclaimed the significance of Pavlov's teachings in their own biological science and endeavoured to criticise their failure as well as that of their colleagues to develop Pavlov's views. Many of the Soviet Union leading physiologists and psychologists came under attack: The psychologists, for failing to use Pavlov "creatively", and the physiologists, for deviating from Pavlov's teachings. During the 1950 meetings and the later sessions held by a special Scientific Council on Problems of the Physiological Theory of Academician I.P. Pavlov, individual scientists were asked to confess their errant ways. They were accused of modifying Pavlovian theory, of adopting new methods, as well as of making favorable references to foreign scientists, and regressing to "pre-Pavlovian idealism" (Cole: 8). In the case of Orbeli, then Director of the Institute of Evolutionary Physiology, the additional charge was made that he deviated from "progressive Michurinist" genetic theories (ibid.) Moreover, a number of physiologists and psychologists were taken to task "for falling into psycho-physical parallelism" (Payne, 1968: 53).

In their opening address to the conference, K.M. Bykov and A.G. Ivanov-Smolensky laid down the general lines to be followed by the conference. Bykov, in his speech asserted that Pavlov's discoveries were of universal importance for the various branches of physiology and medicine. He divided all physiology into a pre-Pavlovian and a Pavlovian stage. As to Smolensky, he essentially shared Bykov's view and stated that "Pavlov's teachings are pregnant, fruitful possibilities for raising Soviet science and especially Soviet medicine to unprecedented heights" (ibid.). The Conference took to itself Stalin's maxim that "no science can develop and flourish without freedom of criticsm" (ibid.).

The outcome of the discussions included decisions accepting the necessity to develop Pavlov's basic ideas as the natural-scientific basis of medicine and biology. On the other hand, it was decided to reconstruct psychology on Pavlovian lines, and to modify higher educational programs in the light of these propositions. In this context, it is interesting to note that simultaneously with the promotion and the imposition of Pavlov's theory, a war was being waged against Virchow's concept of the cell (1858) which had been prevalent in both physiology and medicine in the form of an "atomistic" concept of the organism and its functions. The content of the Conference can be summed up into the following methodological principles:

1. Concepts should not contradict the dialectical materialist principles.
2. Pavlov's views on physiological processes reflect the principles of dialectical materialism; his conception of the organism as self-regulatory is basic.
3. All the medical sciences, including psychology, psychiatry and physiology must incorporate Pavlov's teachings.
4. Speech and language must be the central object of study in psychology. They have to be studied by the objective methods of science.
5. Western theories and facts must be eliminated from Soviet science, as they are hostile to Marxism.
6. Animal psychology is methodologically unsound, since it applies to animals that which is unique to man, namely, the subjective states. This branch of psychology has to

be replaced by studies on the cortical functioning of the cerebral hemispheres as in Pavlov's teachings.

7. The concept of determinism is necessary to science.

8. Thought is a reflection of the outside world, and it is also experienced subjectively. There is a unity of the subjective and the objective in higher nervous activity. The main method and theoretical task of psychology is to define the relation and coincidence between that which was formerly obtained by subjective methods and that which is described by objective, physiological research (McLeish: 204-205).

Even though the Conference was subsequently held to mark a turning point in Soviety psychology, there were only three psychologists who gave speeches. These are: B.M. Teplov, S.L. Rubinshtein, and V.M. Kolbanovsky. A paper by A.R. Luria not read in the Conference, appeared in the published report. It seems that those psychologists who spoke at the Conference were extremely cautious in their addresses, limiting their speeches to general statements on the significance of Pavlov's views for psychology. This was perhaps due to the fact that their position was at stake due to the attitude of a number of physiologists whose views on the nature of the psyche threatened the very right of psychology to exist (Payne, 1968: 54).

S.L. Rubinshtein's address, however, was a clear exception to this line. In his speech, he tried to demonstrate the relevance of Pavlov's teachings to psychology. It meant that the brain-psyche question acquired a new treatment and the dialectical materialist proposition on the psyche being a function of the brain, a new content. Rubinshtein delimitated that domain of psychological theory which could benefit from the application of Pavlov's views, namely, the relation of the psyche to the normal functioning of the brain. On the one hand, psychic phenomena could no longer be related to the anatomical structure of the brain, and on the other hand, the application of Pavlov's teachings lead to an elimination of the two-factor theory which views brain structure and environment as the two determinants of psychic events. Since the physiological processes of the brain consist of reflex activity, the determining factor for such activity is the external environment, or the conditions of life of the organism.

Listing a number of other areas to which Pavlov's views could be applied, Rubinshtein mentioned such problems as thought and speech, the connection of activity with word meaning, as well as the problems of ability, character and environment (Payne, 1968: 55).

This was the extent of Rubinshtein's contributions to the Conference. However, two years later, a detailed revision of his views appeared in Voprosy Filosofii (ibid.: 72). We will shortly deal with Rubinshtein's 1952 publication.

Dealing with the relation between the subjective and objective factors, Smolensky referred to this relation as "one of the most important problems of physiology and pathophysiology of higher nervous activity" (ibid.: 55). He stated that Pavlov promoted the fusion of psychology and physiology and that, therefore, one should not strive to use Pavlov's strictly objective method along with the subjective psychological method. Such usage stems from the belief in psycho-physical parallelism.

It seems that Smolensky was advocating the abolition of psychology, or, at least, its subordination to physiology. His reduction of mental activity to higher nervous activity left a meagre chance for the existence of psychology as a science distinct from the physiology of higher nervous activity. It is not surprising that the initial reaction of many psychologists to the Pavlovianisation of psychology decreed by the Conference was one of confusion and dismay. Cole (p. 8) relates that many of them attending the Session were at a loss as to just what they should do, and some of them wrote a joint letter to Ivanov-Smolensky inquiring "what is the subject of psychology, and what are its tasks"?

Four months after the Conference, Ananiev, who had not contributed to it in any way, suggested that the most basic tasks of psychology were to explain the following questions:

The dialectical leap from matter to consciousness, the dialectical transition from feeling to thinking, and the relationship between individual and social consciousness. These questions necessarily involve a definition of the nature of the psyche and an explanation of its relationship with the material world (McLeish: 217). It seems that the Conference did not have a great impact on Ananiev's ways of thinking about the methods of psychology. However, Ananiev's concern, as well as that of other psychologists was centered, as a result of the Conference, around the study of the nature of psychic phenomena. This study required the reformulation of the subject matter of psychology in ways congruent with the dialectical materialist, as well as with the Pavlovian principles.

The psychologists met in conferences in 1952, 1953 and 1955, seeking to find a solution to these problems. It is impossible, within the scope of this work, to give a detailed account of the various views on the nature of psychic phenomena expressed in the course of the debates precipitated by the Pavlovian Session.

We will single out for discussion four contributions, each one of which representing a different standpoint shared by a number of psychologists on the nature of psychic phenomena.

3. Theoretical Debates After the Pavlovian Conference 1952-1955

A. Rubinshtein on the Nature of Psyche (1952)

In 1952, Rubinshtein revised the views expressed in the *Fundamentals* in an article published by *Voprosy filosofii*. This article occupies a key position among his works as it forms a bridge between his earlier and later views. In the 1952 article, Rubinshtein is close to Antonov's views which we will mention shortly. He tried to steer a middle course between the position which held that psychic activity and higher nervous activity form two distinct processes, and the other extreme position which reduced the psychic to the physiological.

Rubinshtein's article contained two main parts: The first part consists of a self-critical statement on the state of psychology in the Soviet Union. The second part deals with the reconstruction of Soviet psychology on Pavlovianism. "Confessing" his own shortcomings in his *Fundamentals* he declared:

> The chief defect of the *Fundamentals* is its failure to follow the path laid down by Pavlov, and its uncritical acceptance

> of certain principles in foreign psychology. In the course of the exposition which follows, when touching on a series of problems, we shall go against a number of statements made in the *Fundamentals*, giving now a new treatment of the questions considered. The contents of the *Fundamentals of General Psychology* do not reflect those views at which the author has arrived after having studied the well-founded criticisms which have been addressed to him.
> (Quoted in Payne, 1968: 72).

After this self-accusation, which provides a typical sample of self-criticism, which by that time had become an established method used by Soviet intellectuals in order to make advances in science, Rubinshtein went on to outline his plan for the reconstruction of psychology. Here, Rubinshtein left three out of the four principles outlined in his 1940 textbook untouched. However, he revised the first principle, namely the principle of psycho-physical unity which, because of its postulation of two different principles underlying physiological and psychological processes respectively, introduced a certain dichotomy between the psychic and the physiological, a position the 1950 Conference rendered unacceptable. Thus, Rubinshtein replaced this principle by that of "materialist monism", according to which there is only one principle in man, the material, from which the psychic is derived. Furthermore, he named a series of theories which must be rebuilt on the basis of Pavlovianism. These are: the psycho-morphological doctrine of location, the peripheral theory of sensation, the nature of perception, the relation of thought and speech, and the problems of personality. These are the problems which Rubinshtein had already listed in his speech at the Pavlovian Session (Payne, 1968: 73).

The principle of materialist monism represents a great change in Rubinshtein's earlier views. This principle implies that psychic phenomena cannot be viewed as distinct categories of phenomena. Rather, psychic and physiological phenomena constitute two sides or aspects of a single series of processes. Therefore, this principle implies a great dependence of the psychic on the material and a closer link between them.

B. Antonov on the Nature of Psyche (1953)

Antonov published an article in 1953 which represents a sample of the views held by a number of psychologists on the problem of the relationship between psychic processes and higher nervous processes. He made the following propositions:

1. Psychic activity cannot be equated in any way with higher nervous activity. According to the principle of materialist monism, psychic and physiological phenomena are two categories of phenomena, two "sides of a single indivisible nature". Higher nervous activity is the

physiological basis apart from which psychic activity cannot occur.

2. Although these two series of phenomena are inseparably connected, they must not be identified. Hence, Pavlov's views are applicable only to the material basis of the psyche but they fail however to explain the specific laws underlying it, because the psyche is an ideal reflection of the outside world (Payne, 1968: 57).

Antonov's views did not acquire much support. In fact, his position was sharply criticised for going too far in emphasising the irreducible nature of the psyche and, hence, for being akin to psycho-physical parallelism. Moreover, his critics pointed out that Antonov's statement regarding the limitations of Pavlov's doctrine is irreconcilable with the 1950 decision on the Pavlovianisation of psychology.

C. Arxipov's Views (1954)

Arxipov proposed an extreme mechanistic interpretation of psychic phenomena, one which was rightly labeled "vulgar materialism" by his critics (Payne, 1968: 57). His views which were the extreme opposite of Antonov's ideas, were expressed in an article published in Soviet Pedagogy in 1954. They can be summarised in the following points:

1. The view on the immateriality of the psyche is erroneous since it means that the psyche possesses attributes

directly opposed to those of matter, i.e., it is not in space, in time, etc...

2. The classics viewed the psyche as a property of matter, a form of matter in motion, hence, the properties of spatiality, motion, etc.., apply to it. Having these material attributes, the psyche is material.

3. The opposition between consciousness and matter is an opposition between matter and one of its forms, or between the whole and the part. The nervous process is the subjective image, in the form of sensations, of the objective world. Subjective images and neural processes are two aspects of the same phenomenon.

4. It follows from (3) that the laws of higher nervous activity and the laws of the psyche are one and the same. Psychology is a branch of physiology. The sole difference is between the general and the particular. While the physiology of higher nervous activity investigates behavior without considering the subjective factors, psychology, in its turn, studies the subjective factors as a particular form of higher nervous activity (Payne, 1968: 56-57).

As in the case of Antonov, Arxipov's views were not very well received. In the same year (1954) Voprosy Filosofii published an editorial which attacked those who advocated the reduction of psychology to physiology (ibid.: 57).

Most of the participants in the debates tried to find a middle position between the two extremes represented by the views of Antonov and Arxipov. While postulating that higher nervous activity and psychic activity do not constitute two different processes, they strived to discover an explanation which would avoid the mechanist error of reducing the psychic to the physiological. Rozov's views expressed in 1953 constituted such an attempt. He held that the psychic act is made up of a number of physiological processes. Hence, one should speak of the physiological components of the psyche rather than its physiological basis. The psychic act is, however, greater than the sum of its physiological components and as such, it cannot be described solely in physiological terms.

Most of those who participated in the debates adhered to the notion that psychic and physiological phenomena are two sides of a single process. Such was the case, for instance, with K.M. Dedov, V.M. Teplov, A.V. Petrovsky, P.V. Smirnov, N.A. Xromov, N.V. Medvedev, etc.. (Payne, 1968: 58-59). These various interpretations of the Leninist theory of reflection and Pavlovian propositions were not regarded by authoritative publications as having succeeded in solving the problem of building a genuine Soviet psychology. Psychologists were blamed for their failure to substantiate the teachings of the classics of Marxism and those of Pavlov in specific concepts (Rahmani:

62-63). The 1954 editorial in Voprosy Filosofii concluded the lengthy debate on the philosophical problems of psychology in the following terms:

> Regardless of their joint efforts to take dialectical materialism as a guide in their study of psychical phenomena, psychologists so far have failed to achieve the creative application of Marxist philosophy and thus put an end to the backwardness of psychology.
> (Quoted by Rahmani: 63).

4. Rubinshtein: An Attempt at Synthesis (1955-1957)

An important outcome of the decision taken by the Conference to reconstruct psychology on the basis of Pavlov's teachings was the establishment in 1955 of the journal Voprosy Psikhologii. The creation of this journal was supposed to facilitate the task of surveying Soviet psychology by providing a specific organ for psychological literature instead of having recourse, as in the previous years, to university periodicals and monographs difficult to obtain. The first issue of the journal published an article by Rubinshtein which contains a profound elaboration of the problems of psychological studies. This article, which was reprinted and translated into English in 1966 was to provide the framework for Rubinshtein's 1957 textbook entitled Being and Consciousness. In it the author tried to reconcile the two demands made on psychology in the Soviet Union: That it should be based on dialectical materialism and Pavlov's theories. Rubinshtein solved this dual task in relation to four major problems:

1. The problem of determinism in psychology.
2. The relationship between physiological and psychological investigations.
3. The relationship between physiological and psychological processes.
4. The problem of the psychology of thinking.

On the problem of determinism, Rubinshtein started off by saying that the main task of psychological theory is to disclose the principal laws which govern the phenomena it deals with. He chose the principle of determinism in its dialectical materialist sense as the theoretical basis for the construction of psychological theory. He defined this principle as follows: "External causes act through internal conditions" (Rubinshtein, 1966: 47). He viewed this principle as the underlying basis of all phenomena, and the point at which the marriage of physiology and psychology occurs. He further stated that it is in Pavlov's theory that the dialectical materialist principle of determinism, with its emphasis on the internal conditions and thus, connections with external conditions, is best exemplified (ibid.: 48):

> Pavlov's theory reveals the external relations of the organism to the conditions of its life in their regularities precisely because it discloses the internal interrelations

> of the processes by which these external relations are mediated.
> (ibid.: 48).

In Pavlov's theories, Rubinshtein postulated, the reflex conception signifies that mental activity is externally conditioned response activity of the human brain. "This means that mental phenomena are determined by the interaction between man, as subject, and the objective world" (ibid.: 48-49). This, as Rubinshtein saw it, is the essence of the dialectical materialist principle of determinism. This principle functions in a variety of ways according to the nature of phenomena which enter into interaction. As a philosophical principle, it applies to all phenomena. In each special form of phenomena, however, it recieves a special form of manifestation. The task of psychology is to find for the same philosophical principles which underlie the theory of higher nervous activity a new form of their manifestation specific to psychology:

> In building psychology on the basis of dialectical materialism, it is necessary to find the special form of manifestation which the dialectical materialist principle of determinism must assume in conformity with mental phenomena.
> (ibid.: 49).

This, in turn, requires a definition of the relationship between psychology and physiology.

On this problem, Rubinshtein started off by stating that the reflex activity of the cortex is at the same time also nervous (physiological) and mental activity, since it is basically the same activity viewed from different aspects. This reflex activity is therefore studied on two levels: First, as nervous activity determined by physiological laws (inhibition, excitation, etc..), and Second, as mental activity (perception, memory, thinking, etc..). For physiology, reality is the aggregate of stimuli acting on the brain. For psychology, it is the objects of cognition and action, objects with which man enters in interaction as a subject (*ibid*.).

While the notion of stimulus is an ontological notion, since it signifies the action of the phenomena of the material world on the organism, the concept of object is a gnoseological (epistemological) category:

> Phenomena (things, processes) which are stimuli and act on the organism... are realised when they act as objects. Realisation of a thing or phenomenon as an object is connected with the transition from sensation, which serves only as a signal to action, to reaction, to sensation and perception as an image of the object (or phenomenon).
>
> (ibid.: 50).

Consciousness begins with the appearance of the image of the object in the special gnoseological sense of the term. The concept of object, a gnoseological concept, cannot be reduced to the concept of stimulus which is a physiological, ontological category. The relation to the object is important from both the gnoseological and the psychological standpoints. While gnoseology studies the relationship of the object with the subject, psychology deals with the mental processes involved in this relation. Rubinshtein advanced two fundamental, truly Marxist propositions as the basic approach to human psychology: First, the conception of mental phenomena as a product of development of the material world, and, second, the concept of the human psyche as a socially conditioned product of history (ibid.: 51). In the same way that psychological investigations cannot be opposed to the physiological laws underlying it, psychology cannot be assimilated to physiology. The psychical phenomena which are its subject matter appear in a new form determined by relationships from which physiology has been excluded:

> Mental phenomena are a new, specific form of manifestation of the physiological law of neurodynamics, and this specificity is expressed in the laws of psychology. In other words, mental phenomena remain specific mental phenomena and at the same time are a form of manifestation of physiological laws just as physiological phenomena remain physiological, but, as a result of biochemical investigation, also appear as a form of manifestation of laws of chemistry. The lower laws are included in the higher spheres, but only as a subordinate factor which does not determine their specificity.
> (ibid.: 53-54).

In this sense, the theory that the physiological and the psychic represent co-ordinated sides of one process is rejected because it conceals the hierarchy of lower and higher. "Its error consists in the fact that it shows the various "aspects" and does not show the correlation between these aspects" (ibid.: 55). Similarly, the theory which states that physiological and psychological processes are components of a complete description of behavior was regarded by Rubinshtein as a dualistic and mechanist view which presents a false antithesis between physiological and psychological laws. "The search for the specificity of psychological laws from this point of departure is expressed in a fundamentally wrong opposition of psychological to physiological laws" (ibid.).

Rubinshtein then went on to discuss the difference between the real dialectical materialist approach to psychological laws and the behaviorist, stimulus-response approach, taking Pavlov as the representative of the former. Behaviorists, he stressed, merely establish connections between stimulus and response, without revealing anything about the regularities which underlie the appearance of phenomena. In studying the psychology of thinking, for instance, one needs to show the special way in which analysis and synthesis function in specific areas. One must describe how generalisation and abstraction work in different situations, how they are affected by different materials, and the manner in which they operate at the different psychical levels. In this fashion, one can formulate a complete description of thinking.

However, the behaviorists' approach limits itself to recording the transfer of training from one situation to another, thus explaining this process in a superficial way which does not allow for the understanding of psychological laws (ibid.: 57-60).

Rubinshtein's views present the most profound interpretation of the nature of psyche from a Marxist, dialectical materialist point of view. More than any of his contemporaries, he succeeded in producing a systematic and more or less consistent formulation of psychological theory congruent with the officially accepted principles. Thus, his presentation echoes in many a way that of the official standpoint on dialectical materialism as presented in Part One of this work. Rubinshtein's revised system of psychology, as it appears in his post-Pavlovian writings, and especially as they appear in Being and Consciousness has been a most successful attempt to reconcile Marxist-Leninist philosophy with Pavlov's theories. His theory on the nature of the psyche unites the ontological and epistemological aspects of the latter and remains, thereby, faithful to one of the most fundamental propositions of dialectical materialism formulated as early as Engels.[1] Considered from the point of view of epistemology, the psyche appears as an ideal reflection of the material world; from the point of view of ontology, it is higher nervous activity: As an ideal image of the material world, it is non material, but as a reflection of material reality it is dependent on the material object it reflects. This formulation safeguards the principle of the irreducible nature of the psyche on the one hand, and that of materialist monism on the other hand, which principles are part and parcel of the dialectical materialism outlook, as we have seen in Part One, when dealing with the propositions of philosophical materialism and dialectics.

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[1] See Part One, Chapter I.

Furthermore, Rubinshtein's thesis on the historical nature of consciousness as expressed in his principle on the unity of consciousness and activity, unite, on the one hand, the Marxist principle of the historical determination of consciousness, and the principle of the active role of the psyche in human consciousness as proposed by the dialectical materialist theory of knowledge, on the other hand.[2]

Although Rubinshtein's ideas have greatly influenced the foundation of Contemporary Soviet psychology, the debates on the nature of psychic phenomena precipitated by the Pavlovian Conference did not come to an end with the publication of Rubinshtein's solutions. In the nineteen sixties, two major congresses were held to discuss these questions, but Soviet philosophers and psychologists seemed not to reach a consensus. Writing in 1968, Payne declared that "even now, some 18 years after the Pavlov Conference the debate is still continuing and a definitive end is nowhere in sight" (1968: 61).

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[2] See Part One, Chapters II and IV.

However, the task was rendered easier at the end of the nineteen fifties and during the sixties when Soviet psychology entered into a new era of development. The two aforementioned congresses showed a remarkable improvement in the quality of the debates. "Instead of mere exegesis of what Lenin or Pavlov said, there is now a search for factual evidence in support of specific propositions", declared Rahmani writing in 1973 (p. 63). Before we proceed to present the recent developments which occurred in Soviet psychology as a science, it seems appropriate to provide a factual manifestation of the dogmatic character of psychological writings during the forties and especially in the years which followed the Conference.

5. Dogmatic Manifestations in Psychological Writings 1940-1955

As we already mentioned in the introduction to this chapter, as a result of the new set of restrictions imposed on psychologists by the Pavlovian Conference, the degree of conformity, or rather, of dogmatism already apparent in the forties, reached unprecedented proportions in the first half of the nineteen fifties. Psychological writings between 1950 and 1955 showed an abundance of direct quotations not only from the classics, as was the case in the previous decade, but also from Pavlov. On the other hand, quotations from non-Russian authors other than Marx and Engels, which had disappeared from works on psychology during the forties and especially after 1946, continued to do so during the years following the Conference.

Table 1 throws light on the situation. The table presents a five-column division showing the use of direct quotations between 1940 and 1955 in Russian textbooks on general psychology which, more than any other psychological publications in the Soviet Union at the time, were subject to State approval or proscription. The five-column breakdown shows the use of quotations from: (1) Pavlov, (2) Russian physiologists and psychologists other than Pavlov, (3) other Russian writers (19th Century materialists and leaders of the State), (4) Marx, Engels, Lenin and Stalin, and (5) Non-Russian writers other than the German classics.

TABLE 1*

Number and Percentage of Direct Quotations in Six Russian Textbooks of General Psychology: One published in 1940, One in 1948, and Four in 1954-1955

Authors of Textbooks	Date Published	Pavlov		Other Russian Psychologists &Physiologists		Other Russians		Marx, Engels, Lenin & Stalin		Non-Russians Other than Marx & Engels	
		N	%	N	%	N	%	N	%	N	%
1. Rubinshtein	1940	1	.7	36	25.4	21	14.8	43	303	41	28.9
2. Kornilov, Smirnov & Teplov	1948	4	3.9	0	0	7	6.9	91	89.2	0	0
3. Artyomov	1954	30	41.7	4	5.6	9	12.5	29	40.3	0	0
4. Ivanov	1955	56	30.9	5	2.8	18	9.9	102	56.4	0	0
5. Rudik	1955	45	33.8	19	14.3	24	18.1	45	33.8	0	0
6. Tegorov	1955	19	22.9	6	7.2	14	16.9	44	53.0	0	0

* From Razran's article "Recent Russian Psychology: 1950-1956" (1957).

The data provided by the table shows the following traits:

1. The negligible amount of direct quotations from Pavlov in the 1940 and 1948 textbooks.

2. The abundance of such quotations (from Pavlov) in all of the 1954-1955 books listed, with a percentage ranging from 22.9% to 41.7% of the total.

3. The relatively small number of quotations from Russian physiologists and psychologists other than Pavlov in the 1948 to 1955 textbooks, with the exception, in 1940 of Rubinshtein's book (Fundamentals of General Psychology)

4. The absence of quotations from non-Russian authors other than Marx and Engels from the 1940 to 1955 listed books, with the exception of Rubinshtein's Fundamentals where the number of such quotations amounted to 28.9% of the total.

5. The high commonality in the 1940 to 1955 textbooks (including Rubinshtein's work) of direct quotations from Marx, Engels, Lenin and Stalin, with a percentage ranging from 30.3% in 1940, and 89.2% in 1948 to 56% in 1955.

Thus, this table confirms what was already said: The trend of conformity which was characteristic of the late forties and which was taking shape in the form of a heavy dependence on the written word of the Marxist classics, continued or rather increased after the Pavlovian Conference when a new element was added: the compliance to

Pavlov's teachings on higher nervous activity.

By 1956, however, Soviet psychology entered into a new period of development characterised by the liquidation of the negative effects the Pavlovian Conference had in this field, and by a ramification of interests (See Tables 2 and 3). We chose the year 1956 as the start of this new era as it coincides with Khrushchev's pronouncements at the 20th Congress of the Communist Party of the Soviet Union against Stalin's "cult of the personality", and the consequent de-Stalinisation which occurred thereafter in every manifestation of Soviet intellectual life.

CHAPTER IV

SOVIET PSYCHOLOGY AFTER 1956

Introduction

We have chosen the year 1956 as the beginning of a new epoch in Soviet psychology and as the "year of the great divider", to use a Stalinist expression, because of the important declarations made by Kruschev against Stalin during this year. In fact, from February 14 to February 25 1956, the 20th Congress of the Communist Party of the Soviet Union took place in Moscow. During this congress, an analysis was made of the "lessons of Stalin's personality cult" which had become greatly widespread during the last years of his life (he died on March 5th, 1953). "The congress proposed that the Central Committee take consistent measures to overcome completely the cult of personality, so alien to Marxism-Leninism" (*Soviet Encyclopedia*, 1973, Vol. 2: 288). The campaign against the cult of personality which had already been in progress throughout the three years since Stalin's death had left no doubt as to whom it was aimed at. The novelty of the situation created by the 20th Party Congress consisted mainly in the fact that Stalin was now openly referred to by name. Decisive steps are said to have been taken "to put an end to violations of Socialist legality" (*ibid*.) as a result of which "all honest workers who had earlier been unjustly condemned were rehabilitated" (ibid.). Simultaneously with the demotion of Stalin, there was a re-emphasis on the Leninist standards of Party and government life, of inner party life, and of Soviet democracy (ibid.).

The elements of novelty which appeared in the field of dialectical materialist philosophy since the 20th Party Congress consisted primarily (as we have already seen in Part One of this work) of a reversion to the three dialectical laws as stated by Engels. In fact, because of Stalin's direct involvement, changes in certain scientific fields after his death were rapid and far reaching. In the fields of social and natural sciences there was a decrease in dogmatism. This had already occurred almost immediately after Stalin's death. Thus, in 1954, an article in Pravda written by Sobolev, a physicist, had made "caustic reference to the unmerited claim of certain Soviet scientists to monopoly of the truth, mentioning three names in this context: Lysenko, Bykov and Ivanov-Smolensky" (quoted by Cole: 9).

The 21st Congress of the C.P.S.U. held in Moscow from January 27 to February 5, 1959, took further steps in the direction set down by the previous congress. During this congress which is qualified as "extraordinary" by the Soviet Encyclopedia (1973, Vol. 2: 288), it was concluded that "socialism had won out completely and finally in the U.S.S.R." (ibid.). Thus, it seemed that the iron curtain which the Soviet Union had erected between itself and the West after the 2nd World War had fulfilled its task:

> During the whole period when the Soviet Union was the only Socialist country, encircled by capitalism, and during the first decade of the world Socialist System's existence, when Socialist production relations had not yet been consolidated in the peoples' democracies, the primary concern of the C.P.S.U. was to maintain and fortify the position of world socialism against incursions by the aggressive forces of imperialism.
> (ibid.).

The meaning implied in this statement is that the long isolation the Soviet Union had imposed upon itself for reasons of self-preservation was no longer categorically imperative. It is of no surprise then, that the 23rd Congress of the C.P.S.U. (in 1964) adopted active measures of foreign policies emphasizing international relations between the Soviet Union and Western countries so as to create "favorable international conditions for building socialism and communism" (ibid.).

Important changes occurred on the scientific scene as a result of the decisions and declarations made by the aforementioned congresses. These changes can be summarised in the following points:

1. A weakening of the party dictatorship in the fields of science in the sense of direct interference in scientific debates by means of decrees and condemnations.

2. A renewed emphasis on the Leninist principle of objective scientific examination of reality, and a condemnation of subjectivism and voluntarism.

3. A revision of oversimplified approaches to the philosophical interpretations of the findings of science, such as physiology and biology, and to a lesser degree, psychology (Wetter, 1959: 487).

4. An acknowledgment of certain achievements of bourgeois science and the usefulness of the lessons which could be learnt by it. However, the long engrained habit of counterposing "reactionary" (bourgeois) and "progressive" (communist) scientific theories by no means disappeared and is still prominent in contemporary Soviet writings (Luria, 1966, 1976; Smirnov, 1967; Leontyev, 1967, 1977; Lomov, 1979).

The changes which took place in Soviet psychology since the nineteen sixties can be summed up in the following points:

1. The liquidation of the negative effects the Pavlovian Conference had on the development of Soviet psychology, and the consequent assertion of psychology as a science independent of the study of higher nervous activity.

2. A return to Lenin's theory of reflection (and to dialectical materialism in general) and a greater involvement in experimental research to replace the purely

pseudo-scientific theoretical issues which pervaded the Pavlovian discussions.

3. A broadening of horizons and the appearance of new fields of investigations as well as the reinstitution of such areas as industrial and child psychology.

4. The creation of interdisciplinary areas of study between psychology and neurophysiology.

5. The reinstitution of some psychologists whose work had been unacceptable during the nineteen thirties. Among these were Luria, Leontyev and especially Vygotsky.

6. The accordance of a prestigious position to the classics of Soviet psychology including the "mechanists" as well as Blonsky and Rubinshtein.

7. A decrease in dogmatism and a broader tolerance to some Western psychological theories.

These are the changes we will deal with in this chapter.

1. De-Pavlovianisation of Psychology

A. Recognition of the Negative Effects of the Pavlovian Conference

Recent Soviet psychologists (Luria, 1966; Leontyev, 1967; Smirnov, 1967) view as a positive endeavour the emphasis put by the Pavlovian Conference on the study of physiological mechanisms of mental activity and the consequent importance accorded to the principle of determinism and the reflex concept of the mind already proposed by Sechenov. They also attribute to the discussions elicited by the 1950 Conference "the creation and development of several new trends in research" (Smirnov, 1967: 27). However, these same authors rightly point out to the negative effects of the Conference. These effects as presented by Smirnov (ibid.) can be summed up as follows:

1. The attempt by some physiologists to reject psychology as an independent science and to reduce it completely to the physiology of higher nervous activity.
2. As a result of (1), Pavlov's teachings were vulgarised and a certain dogmatic attitude was taken towards everything Pavlov ever pronounced.

Smirnov (ibid.) asserts, moreover, that these negative consequences of the Pavlovian Session, especially the dogmatism with respect to Pavlov's teachings, were overcome during the sixties. Quoting Teplov, he agrees with him: "The task of the scientist in studying the properties of the human nervous system is to continue the creative work begun by Pavlov, and not to repeat as incontrovertible truths all the views that Pavlov ever formulated" (ibid.). Smirnov rightly recognises that the de-Pavlovianisation of Soviety psychology and the abolition of the reductionist notion concerning the relation between psychology and physiology were largely due to the resolutions taken by the 1962 Conference on Philosophical Problems of the Physiology of Higher Nervous Activity and Psychology. We will briefly review the course of this Conference which is a landmark in the history of Soviet psychology.

B. Resolutions of the 1962 Conference

a. Insistence on the Importance of Dialectical Materialism for Science

The resolution of the Conference started out by reaffirming the role of dialectical materialism in science in general and psychology in particular:

> The period of transition from socialism to communism is characterised by great successes in scientific development. The fields of physiology of higher nervous activity and psychology are developing successfully as well. The phenomena studied by these sciences are directly related to the dialectical materialist solution of basic philosophical problems and to the Marxist-Leninist theory of cognition.
> (Resolution of the All-Union Conference, 1962: 45).

Moreover, it was declared that "the entire complex of the biological disciplines of physiology and psychology" proceed according to the position taken by the C.P.S.U. Program, namely, that the "conditions of life are decisive in the development of the organic world" (*ibid.*).

Stressing the importance of the achievements of natural science, "including the physiology of higher nervous activity and psychology", the Conference affirmed that the development of science increasingly indicated that the materialist dialectic is "the only philosophical method to explain the general connections in nature and the processes of development which occur as a result of them" (ibid.). Moreover, the conscious use of dialectical materialism was said to allow the understanding of the mutual connections and penetration of the various sciences with one another. In this context, the Conference quoted the 1961 Party Program declaration concerning the "great urgency" to develop philosophical problems of contemporary natural science on the basis of dialectical materialism, "the only scientific method of cognition" (ibid.). In this connection, the Conference stressed that "contemporary physiology and psychology" are developing on the methodological basis of dialectical materialism, "in the irreconcilable struggle of materialism with idealism, dialectics with metaphysics" (ibid.).

Soviet scholars, in their incessant conduction of "ideological warfare" against "reactionary currents" and the "opponent of contemporary scientific dialectical materialism" were said to be increasingly attracting foreign researchers "who waver between materialism and idealism". The critical evaluation of the methodologically incorrect conclusions drawn by "certain natural scientists in the capitalist countries" through the use of facts obtained by natural scientists was stressed as a necessary endeavour for the successful development of both natural science and scientific philosophy (ibid.). In this view, neo-Freudanism and "similar pseudo-scientific concepts", hostile to Pavlovian studies were claimed to be critically evaluated through the development of the study of reflex activity, which allows the opposition of these reactionary theories with "the dialectical materialist point of view on the nature and role of unconscious forms of higher nervous activity" (ibid.: 47).

b. The Value and Shortcomings of the Pavlovian Conference

The Conference declared that the Pavlovian study of higher nervous activity constituted one of the most important achievements of modern natural science in general and of "physiology in particular". It was further asserted that the future development of this field of science was of extreme importance for the development of Marxist-Leninist philosophy. The Conference declared that during the fifties as well as "the present decade", the theoretical foundation of all Soviet physiology and psychology was the position first formulated by I.M. Sechenov and later developed by I.P. Pavlov and A.A. Ukhtomsky. As a result of these endeavours, the concept of the reflex basis of the activity of the nervous system was substantiated. This theory was affirmed to provide the weapon against "the idealistic and metaphysical interpretations of living processes", and against the "various forms of underevaluation of the unity of the organism" (ibid.: 46). Thus, emphasizing the importance of the reflex theory as the expression of materialist determinism in studies of the central nervous system, the Conference urged the participants to further engage in the creative development of this theory, in the discovery of the systematic mechanisms of reflex activity and in the description of its character as a self-regulatory mechanism for the adaptation of the organism to the outside world (ibid.). Although the 1962 Conference acclaimed the importance given by the Pavlovian Session to the study of the brain, a study which "provides support to the materialist theory of reflection", it pointed out to the negative effects of the Pavlovian Conference as a result of Stalin's "cult of personality" (Five years later, Smirnov was to reproduce this comment in almost exact terms):

> Stalin's cult of personality left a negative mark on the course and results of the work of the Joint Session of the Two Academies. [the Pavlovian Conference]. It fettered the creative initiative of scholars and spawned dogmatism, perverting the principle of scientific criticism, replaced comradely free exchange of opinion with theoretical positions and conclusions by decree, pasting various kinds of labels on the heterodox.
>
> (ibid.: 46).

Furthermore, the Conference pointed out to the fact that after the Pavlovian Conference, the negative attitudes towards psychology were disseminated. As a result of this, some scientists tried to dissolve psychology in the physiology of higher nervous activity. Similarly, some physiologists and philosophers endeavoured to present the physiology of higher nervous activity as the only way to study the human mind: "Certain scientists had the false notion that to take the position of Pavlovian scholarship meant to hold a course of liquidation of psychology. They maintained that to retain psychology as an independent science was, in the last analysis, to defend an anti-Pavlovian line" (_ibid_.). Thus followed the inhibition of the development of psychology in theoretical problems. Pedagogy, medicine, labor, and other practical matters were neglected.

c. The Break for Psychology

Summing up the general traits characterising the "intensive continuing development and deepening of the fundamental, general physiological and psychological concepts" (_ibid_.: 46), the Conference pointed out to the following developments made in psychology:

1. The appearance of new methods of experimental research such as the electrophysiological method of studying the functions of the nervous system both in the

laboratory and in clinics.

2. The use of cybernetic methods for research in physiology and psychological concepts (ibid.).

3. The successful working out of the sociohistorical essence of the human mind as well as the reflex nature and active character of mental reflection (ibid.: 47).

4. The use of objective experimental methods of research in psychology and the collaboration between psychologists, physiologists and philosophers, a collaboration which was said not to have been achieved yet.

5. The necessary development of an approach to problems existing at the juncture of psychology and sociology as well as psychology and technology with an emphasis on problems related to man's activity under modern forms of automatic control in the productive process.

The Conference concluded by stressing the Pavlovian method of conditioned reflexes as the most important approach to the study of the unified functions of the nervous system:

> Our Conference notes that the most important basis of a true fulfillment of the well-known Leninist precepts on the development of scientific psychology is the profound study of reflex activity of the brain, gradually developing from the discovery of the laws of elementary mental phenomena to the penetration of the highest creative manifestation of human consciousness.
>
> (ibid.: 47).

Thus, it seems that even though the study of higher nervous activity and psychology were grouped together so as to give the impression that psychology is a branch of physiology, there were definite signs in the Conference which indicated the beginning of the liberation of psychology from the restraints of Pavlovian physiology.

Above all, the recognition of the negative effects of the Pavlovian decisions under Stalin was by itself a considerable step forward in the direction of an independent science of psychology. Moreover, even though the importance of Pavlovian teachings was stressed, one can feel that this emphasis was no longer strictly reductionist as it was in the fifties. Instead of conceiving of the study of the reflex mechanisms of the brain as an end in itself and a sufficient explanation of brain mechanisms, a new dimension was added in the Conference. From the discovery of the basic laws of mental activity provided by the study of the reflex activity, the understanding of human consciousness was believed to occur. Thus, stressing the "immense complexity of reflex activity" the Conference further recommended the rapprochement of the physiology of higher nervous activity not only with "all the divisions of psychology", but also with such emerging development as that of automatic regulation, methods of modeling physiological and psychological processes, and the development of most modern control systems (*ibid.*).

Thus, it seems that the relationship of physiology and psychology was seen, not as a one-to-one horizontal relation, but as a multidimensional interaction occurring at a vertical level of increased complexity. The development of reflex theory was no longer restricted to laws of physiology. Psychology, cybernetics and information theory were added perspectives from which this study could develop. The Marxist-Leninist theory of cognition was said to be basic for the further development of this area. The investigation of characteristic peculiarities of the most complex forms of reflection of reality, "especially the activity of reflection", was said to require a dialectical materialist standpoint.

The concluding remarks of the Session were put in the following words:

> The Conference expresses its confidence that physiologists, psychologists and philosophers, will achieve new creative successes in solving the problems which stand before Soviet science at the 22nd Congress of the C.P.S.U. which has accepted the great program of the continuous building of communism in our country.
>
> (*ibid*.: 48).

2. The Diversification of Psychology

A. Evidence of the Creation of New Areas of Study

The developments of Soviet psychology in the sixties were presaged by the 23rd Congress of the Communist Party of the Soviet Union. It is of some significance that the foundations of psychology were presented in general terms as resting upon scientific objectivity as formulated by Lenin, with no specific mention of Pavlov's principles as the framework within which psychological studies have to be carried (Cole: 10). On the contrary, there was a wide appeal to use the best available principles emerging from such current developments as cybernetics and information theory. These statements indicate that the use of Pavlov's teachings both in the fields of psychology and physiology were already on the wane during the sixties. Although psychologists were still cautious about openly denouncing the Pavlovian restrictions of the Salinist period, one could see clearly that these restrictions were being gradually shaken off through a ramification of interests stemming both from Pavlovianism and other fields of research.

Tables 2 and 3 illustrate this new trend. Table 2 was compiled by Brozek and Hoskovec (1966) on the basis of information provided by Lyubinova in 1964 and 1965. It provides a complete listing of Soviet publications in psychology, including both books and journals for the years 1963 and 1964. Table 3 indicates the new research areas which arose in Soviet psychology since 1955.

TABLE 2

Areas of Soviet Psychology and the Number of Publications that Appeared in Each Area in the Soviet Union in 1963 and 1964*

Areas of Study	1963		1964	
	N	%	N	%
1. General psychology	216	22.6	189	19.2
2. Child and educational psychology	359	37.5	419	42.5
3. Psychology of work, engineering psychology, psychology of sports	72	7.5	41	4.2
4. Social psychology	-	-	28	2.8
5. Psychology of art	-	-	15	1.5
6. Abnormal psychology, psychopathology	86	9.0	73	7.4
7. History of psychology	42	4.4	19	1.9
8. Animal behavior	9	0.9	3	0.3
9. Experimental methods	24	2.5	9	0.9
10. Teaching of psychology	8	0.8	19	1.9
11. Psychology abroad	17	1.8	24	2.4
12. Critique and bibliography	28	2.9	38	3.9
13. Scientific chronicle	30	3.1	30	3.0
14. Discussions and debates	23	2.4	15	1.5
15. Popular scientific literature	44	4.6	65	6.6
Total	958	100.0	987	100.0

* Compiled by Brozek and Hoskovec (1966).

TABLE 3

Topics of Articles and Reviews in "Voprosy Psikhologii" in 1955 and 1965*

Areas of study	Number of articles 1955	1965
1. General psychology	8	8
2. Biographies, obituaries	7	8
3. Biographies on Sechenov and Pavlov only	5	-
4. Neurophysiology	8	5
5. Conditioned reflexes	8	4
6. Motor activity	3	2
7. Perception and sensation	5	16
8. Thinking and problem solving	2	7
9. Attention and memory	1	3
10. Set theory	2	2
11. Vocational psychology	1	8
12. Animal psychology	1	-
13. Information theory and use of computer models	-	7
14. Cybernetics	-	2
15. Psychology of art	-	4
16. Child and educational psychology	2	7
17. Experimental methods	6	8
18. Teaching of psychology	4	2
19. Reviews of foreign psychological literature		
(a) of communist countries and sympathisers	6	-
(b) of non-communist countries	-	6
Total	69	99

* Compiled by Veer (1967).

According to the listing in table 2, there is a growth both in quantity and in diversity in various fields of psychological research. The quantity is particularly impressive in the areas of educational and child psychology. In 1964, the percentage of publications in this field rose to 42.5% of the total publications of psychological works in the Soviet Union, which constitutes an increase of 5% on the previous year. Moreover, as indicated by both tables, new fields of research which appeared in 1964-1965 include such areas as social psychology and the psychology of art. The interest in the latter emerged as a result of the long delayed publication in 1965 of Vygotsky's monograph entitled The Psychology of Art and completed as early as 1925. It is true that these fields were just starting to struggle for existence, a fact which can be noticed from their meager number of contributions as shown in table 2. The same can be said about abnormal psychology (defectology) and the psychology of personality. Both fields were achieving a slow and hesitant progress. In sharp contrast to this, industrial psychology (or engineering psychology) sprung up almost overnight, was flourishing rapidly. This also applies to cybernetics which experienced in the sixties rapid growth and development. In fact, the number of publications in this field in 1964 amounted to 5% of the total number of publications under the category of "general psychology" in table 2. In 1965, the series entitled Problems of Cybernetics edited by A.A. Lyapunov, reached Vol. 13 (Brozek and Hoskovec, 1966: 35). Moreover, as can be seen in both tables, interest in the use of computer models in psychology, totally non-existent in the fifties was taking a definite shape during the sixties. Brozek and Hoskovec (p. 35) indicate that the implications of cybernetics for medicine and physiology were examined in 1963 by Parin and Bayevsky. Furthermore, in 1964, an extensive treatise on mathematical aspects of biocybernetics was written by Chernysh and Napalkov.

A further breakdown into sub-categories of the category "general psychology" in table 2 revealed that a significant number of the publications in this category dealt with broad philosophical considerations (about 15% of the total). Entries that could be classified as belonging to physiology and psychology amounted to 6% of the total, and neurophysiology (largely electrophysiology) to 7%. Visible also is the continuing interest in psycholinguistics (5%) and in thinking, with emphasis on problem solving (7%). This is also clear in table 3 where the number of articles on this topic in Voprosy Psikhologii rose from 2 in 1955 to 7 in 1965.

The dwindling of publications in neurophysiology and conditioned reflexes (table 3) as well as in animal psychology (tables 2 and 3) indicate that the huge body of publications on higher nervous activity were already being regarded, for the most part, as belonging to physiology rather than to psychology.

Tables 2 and 3 are by no means exhaustive in the sense that not all areas of psychological research appear in them. For instance, table 2 does not mention vocational psychology. Table 3 does list it but does not show the new objects of study which appeared in this field. In fact, in vocational psychology, such new occupations were studied as that of a cosmonaut, a computer puncher, etc.

The disappearance from Voprosy Psikhologii in 1965 of articles on Sechenov and Pavlov (table 3) are significant especially when one considers that in 1955, 8 articles were devoted exclusively to them. Soviet psychology was moving away from the straight jacket imposed on it by the Pavlovian discussions. Moreover, the appearance in 1965 of 6 articles devoted to the study of foreign, non communist psychological theories, which articles were non-existent in 1955 (table 3), reveals the beginning of a greater tolerance to Western "bourgeois science". Some signs of this development were already apparent in the 1962 All-Union Conference when, along with the caustic remarks it made against "reactionary tendencies in capitalist countries", it declared that "the position of materialism is strengthened not only by scientists who are conscious partisans of dialectical materialism, but by the results of concrete investigations of many foreign scientists who basically take a materialist position." (Resolutions of the All-Union Conference: 45). Furthermore, the fact that the 28th International Congress of Psychology was organised by the Society of Psychologists of the U.S.S.R. in 1966 and the fact that it took place in Moscow is an additional sign of the "branching out phenomenon" which was starting to take place in Soviety psychology in the Sixties.

Thus, Leontyev was able to assert in 1967:

> New prospects emanating from the profound changes of recent years, have opened up before psychology. These changes have involved a considerable broadening in the range of problems dealt with, an expansion of its connections with practice, a more intensive development of borderline investigations, and a revision of its methodological arsenal, consisting of the inclusion of mathematical methods and the wide use of electrophysiological and other objective indicators.
>
> (p. 112).

B. Some Specific Areas of Interest

Luria (1966), Leontyev (1967) and Smirnov (1967) indicated the new areas Soviet psychology was becoming concerned with in the sixties, as a result of new problems arising from technological and cultural changes. These areas involved as already indicated by tables 2 and 3, problems of personality, social psychology, educational and applied psychology, the problems of adapting the models of communication to the peculiarities of human perception and thought, engineering and labor psychology, medical psychology, as well as borderline investigations between psychology physiology and sociology. We will here deal with the most important of these developments, giving a brief description of the major concerns of each area.

a. Engineering Psychology and Psychological Bionics (Cybernetics)

The emergence of these areas of research according to Leontyev (1967: 113) was due to the problems created by the technological revolution and the consequent modifications in the functions of human labor. The development of automation in production and the invention of automatic control systems resulted in the transferal of a great amount of the operator's work to the psychological level, namely to the level of perception, thought and memory. The fact that the most important processes carried out by an operator of automated control systems are in the form of internal mental processes, means that even their initial description demands a special psychological investigation. The same applies to the problems of adapting a machine to human. Moreover, psychology is confronted with the new task of finding such descriptions of human mental functions as will allow technological modeling and the transmission of their performance to machines.

b. Labor Psychology

Leontyev (ibid.) declared in his article entitled "Some Prospective Problems in Soviet Psychology" that labor psychology arose "abruptly" in connection with the resolution of the Central Committee of the C.P.S.U. (1964) on the problems of further economic development. The problems which emerged in this area are related to the scientific organisation of labor, the improvement of ecological conditions in production, the optimisation of working conditions, professional training and vocational selection, problems of work motivation and stimulation, as well as those of "human relations".

> Labor psychology deals predominantly with 'macroprocesses' which much more directly reflect and bear the characteristics of new socialist-relations of production. Thus, labor psychology is destined to become [in the Soviet Union] the psychology of socialist and communist labor, which presents new theoretical problems of the broadest general psychological significance. (ibid.).

In this connection, Leontyev mentioned the problem of investigating labor activity and labor relations from the point of view of the subjective overcoming of the alienation of work.

c. Medical Psychology

This field, Leontyev (ibid.: 114) designated as neuropsychology because of its concern with the diagnosis of local brain injuries and the restoration of mental functions disturbed as a result of these injuries. The association of this field with medicine, an association which created what is strictly called medical psychology, deals with such problems as the mental response of a patient to his illness or to the actions of a physician, as well as the psychological methods of the investigation and diagnosis of mental illness. The problems of emotional trauma, of conflict experiences, of the role of the unconscious in the mind, and of mental compensation are also dealt with in this field. These, according to Leontyev were "precisely those questions that in past years have been ignored in [the Soviet Union] not only in pathospsychology and general psychology, but also in child psychology. This frankly speaking, has seriously impaired its development" (ibid.).

d. Social Psychology

Leontyev (ibid.) declared that "social psychology has been almost totally neglected in [his] country as a special branch of psychology". He pointed out to the necessity of dealing with sociopsychological problems arising in production, social life, education, legal matters and the various spheres of human relations. In this connection, Leontyev distinguished two different trends in Soviet social psychological study of these phenomena:

1. Investigations occurring on a sociological level as regards their subject and method, with the use of psychological data only as an indicator value.

2. Socio-psychological investigations of psychological phenomena produced by the conditions of the "immediate community" of human activity. Examples of such phenomena are changes in external and internal behavior produced by the "publicity factors", and other psychological phenomena. The problems dealt with by these types of socio-psychological investigations overlap with problems of general psychology, labor psychology and pedagogical psychology. Leontyev further asserted that the formulation of a scientifically based program for strictly socio-psychological investigations, a formulation, which, in his view was not yet achieved, requires a correct theoretical interpretation in the context of psychological problems. These problems, Leontyev identified as being "the problem of the sociohistorical nature of the human mind, the problem of the relationship between individual and social consciousness, and the problem of mental development" (ibid.: 115).

e. Interdisciplinary Research Between Psychology and Neurophysiology

This area, according to Leontyev (*ibid*.: 120) is involved with the study of the hierarchical relationships between processes taking place on different levels within a single higher structure, such as sensation, perception and memory. This requires the answering of the question of "how precisely, are the threads of the physiological 'canvas' woven in the psychological 'pattern', and whey are they woven into a given particular pattern" (*ibid*.). What Leontyev sees as the chief prospective task stemming from the development of borderline psychological and physiological investigations is to effect "a vertical synthesis" of the various levels on which processes underlying human mental activity occur" (*ibid*.: 121). In this connection, he referred to Vygotsky's theory on the mediated nature of higher mental function as a theory which prepares the ground for the above mentioned vertical synthesis. The transition which, according to Vygotsky, occurred from natural to sociohistorical functions was not meant, so Leontyev rightly affirmed, as a mere superimposition of higher functions onto elementary ones. Rather, this transition occurs as a result of *structural* transformation of activity. Thus, mediated memorisation occurs as a result of a rearrangement of elementary functions into new relationships to constitute a new system-structure.

Stressing the importance of studies on the "interlevel" transitions which link psychological levels with physiological ones, Leontyev declared that Soviet psychology has not yet elaborated this problem (ibid.). Rather, it investigates only isolated, chiefly pathopsychological and neuropsychological studies. Summing up the position of psychology as a science and its relationship with other sciences, Leontyev stated:

> Psychology stands at the juncture between the social and the natural sciences. Moreover, it forms its own branch of knowledge. Hence it cannot develop its full possibilities as a component of another science, such as physiology, pedagogy or technology. On the contrary, its chief prospects lie in its independent development, in a theoretical comprehension of the vast knowledge it has accumulated and in the creation of a scientific system. Figuratively speaking, psychology must develop not into a bush but into a trunk.
> (ibid.: 125).

f. Neurophysiology (Pavlovian studies) and Cybernetics

Pavlovianism has not remained without progress during the sixties. On the contrary, a number of researches conducted during this decade revealed the dependence of conditioned reflexes upon the life conditions of an animal (Veer: 80). This finding led to the development of a new branch of physiology, called ecological physiology headed by A.D. Slonin and others. But the most interesting outcome of studies on conditioned reflexes lies in the creation of borderline disciplines between Pavlovianism and Cybernetics. Thus, it was found that the Pavlovian concept of the brain as a self-regulatory mechanism relate very well with this new discipline. In the words of Luria (1966: 65):

> Currently, the study of self-regulating systems, of systems of automatic control, is being developed. The work of such systems, constructed on prepared programs given to them, does not require the constant transmission of external signals. Through feedback they can regulate the processes going on within them. The ideas at the base of self-regulating systems gave an impetus to the re-examination of old concepts and the elaboration of new ones concerning the most complex forms of brain functions, which, as I.P. Pavlov defined it, is the 'highest self-regulating system'.

In this context, Luria (1966: 68) and Smirnov (1967: 28) mentioned that the research conducted by Anokhin and Bernshtein revealed mechanisms of regulation of actions in the nervous system, which proved to be closely connected with problems of cybernetics as the science of the general principles and regularities in processes of control. Thus, the concept of reverse afferentiation, for instance, and that of feedback, turned to be of extreme importance to cybernetics.

On the basis of this and related concepts, P.K. Anokhin and V.A. Bernshtein have suggested that the "Cartesian" notion of "reflex arc" developed by Sechenov and Pavlov does not adequately emphasize the complexity of behavior. Thus, they put forth a different term, the "reflex cycle" which consists of five major steps: The stimulus, the working out of a behavior program, the reaction, the feedback, and the correction of behavior.

Emphasizing the dialectical materialist character of such studies, Birjukov and Tjuxtin (1964) claimed that cybernetics has to be "considered as one of the most striking scientific confirmations of dialectical materialism that there ever has been" (Quoted by Kirschemann, 1970: 11).

3. The Reinstitution of Previously Demised Psychologists

The nineteen sixties witnessed an upsurge of publications of books written in the thirties and never published at the time of their completion, as well as reprints of books and articles proscribed during the conformity, Stalinist era. Such figures as Vygotsky, Luria, Leontyev, Galperin and Elkonin, to mention just a few, whose ideas were thought of as heretical, became in the nineteen sixties and up to the present time the leaders of Soviet psychological theory. Writing in 1979, Lomov (p. 73) stated:

> One of the most important achievements of Soviet psychology is that it studies mental phenomena in the context of man's activity in the real world. The theoretical and experimental works of

> G.G. Ananev, M.Ya. Basov, L.S. Vygotsky, A.N. Leontyev, A.R. Luria, S.L. Rubinshtein, ... and others have provided the foundations for developing specific scientific principles of the psychological analysis of human activity.

A. Vygotsky

Among the numerous changes which have taken place in Soviet psychology since Stalin's death, the most striking still is the reinstitution of Vygotsky. Although he was dead some 26 years before Rubinshtein his name is constantly mentioned in contemporary works on Soviet psychology as if he was still alive and leading the psychological scene, whereas that of Rubinshtein is more or less associated with the old classics of Soviet psychology.

The 1964-1965 Pedagogical Encyclopedia acclaimed Vygotsky's achievements in the following terms:

> Vygotsky's greatest contribution lies in the fact that he was the first to attempt to demonstrate the Marxist thesis of the socio-historical nature of human consciousness in concrete psychological investigations. (In Slobin, Handbook of Soviet Psychology, 1966: 111).

Similarly, the Soviet Encyclopedia (1970, Vol. 5: 640) stated that "Vygotsky's cultural historical theory engendered the most important school in Soviet psychology which produced A.N. Leontyev, A.R. Luria, P.Ia. Galperin, A.V. Zaporozhets, D.B. Elkonin and others".

Along with the recognition of the importance of Vygotsky's work for contemporary Soviet psychology, his efforts for the reconstruction of psychology in the mid-twenties was also acclaimed as having contributed to demonstrate "that attempts to explain human behavior by reducing higher forms of behavior to lower elements were fruitless" (ibid.: 639). Luria (1966: 63) also asserted that Vygotsky's work entirely refuted the old notions which viewed the different processes of mental life as innate properties of man: "What were thought for centuries to be inherent forms of 'mental life' have turned out to be in fact the result of a complex formation of mental activity in the process of the social development of the child" (ibid.).

The comeback of Vygotsky occurred around 1956, the year at which his 1934 Thought and Language suppressed in 1936 was reprinted in a volume entitled Selected Psychological Investigations. Apart from Thought and Language, this volume included Vygotsky's book entitled Problems of the Mental Development of the Child which was completed between 1929 and 1934 and published for the first time in 1956. Moreover, in 1960, another collection of Vygotsky's writings appeared under the title of The Development of Higher Mental Functions. This volume included the following previously unpublished works: History of the Development of Higher Mental Functions

(1930-1931), Lectures on Psychology (1932), Behavior of Animals and Man (no date), Pedology of the Adolescent (1931). Finally, Vygotsky's Psychology of Art (written in 1925) was published for the first time in 1965. Apart from this, his numerous articles as well as excerpts from his works are published regularly in Voprosy Psikhologii.

The occasion of Vygotsky's 70th birthday was celebrated in 1966 by a festive publication in Voprosy Psikhologii of articles on him. And in his 1967 Survey of achievements of Soviet psychology, originally published in Voprosy Psikhologii, Leontyev made the following statement which can unmistakably be attributed to Vygotsky and his school:

> Soviet psychology meets the fiftieth anniversary of the Great October Socialist Revolution with outstanding results. It is sufficient to recall its success in dealing with such fundamental problems as those of the sociohistorical character of the human mind, of activity and of consciousness.
>
> (p. 112).

B. Leontyev

The reinstitution of Leontyev along with that of Vygotsky is worth mentioning. In 1963, he was awarded the Order of Lenin (previously called the Order of Stalin) for his book Problems of Mental Development published in 1963 which contained a number of research conducted during the thirties. An editorial of a 1963 issue of Voprosy Psikhologii was devoted to congratulate Leontyev for this achievement:

> Awarding the Lenin Prize to Aleksey Nikolayevitch Leontyev is an acknowledgment not only of the scientific merit of the Laureate, but of Soviet psychology as a whole. It is a joyful event for all Soviet psychologists.
> (In Slobin, Handbook of Soviet Psychology, 1966: 9).

Some of the chapters contained in this book are: The "problem of the Origin of Sensation", completed as far back as 1936 and "the Development of Memory" where Leontyev "established empirically the general and basic laws of the development of specifically human forms of mental activity on the basis of the development of mediated memory in children" (ibid.: 8). The authors of the 1963 editorial concluded by asserting that the ideas and "concrete content" contained in this book marked Leontyev's path in the science of psychology, a path which also belongs to an entire school created by Leontyev (ibid.: 9). Along with Luria, Leontyev is one of the leading figures in contemporary Soviet psychology.

In 1966 Leontyev was appointed president of the 28th International Congress of Psychology held in Moscow and in the same year he became Dean of the Department of Psychology of Moscow State University.

C. The Classics of Psychology

a. The "Mechanists"

Along with Kornilov, Bekhterev is presently viewed as a pioneer of Soviet psychology. However, reactology and reflexology as practiced by these psychologists during the first decades of Soviet psychology are still said to have been (and rightly so) mechanist and reductionist (Smirnov, 1967: 22). This does not, however, alter any of the prestigious positions these thinkers presently hold on the shrine of Soviet psychology. In 1963, Kuznetzova published his voluminous Sketches containing biographies of Sechenov, Bekhterev, Pavlov and Ukhtomsky.

Needless to say, Pavlov is presently considered as one of the greatest Russian scientists. In the words of The Pedagogical Encyclopedia (1964-1965), "his genius ... and his great contribution lies in the fact that he, following Sechenov, developed the scientific, determinist principle of the reflex, on which are based ... all of the most complex adaptive reactions of the organism to the external world" (in Slobin, Handbook of Soviet Psychology, 1966: 109).

The centenary of Sechenov's Reflexes of the Brain in 1963, resulted in a veritable flood of journal articles and Conferences. In general, the Classic works of Sechenov, Bekhterev, Pavlov and Ukhtomsky are said to have "assisted in understanding the human mind as a system of dynamic activity formed under the influence of the external world" (Luria, 1966: 62).

b. Rubinshtein

Rubinshtein is presently considered, along with Vygotsky, Luria, Leontyev, Teplov and others to have determined the direction and character of the concrete investigations by Soviet psychologists, of mental development during ontogenesis and the basic postulates of pedagogical and child psychology (Smirnov, 1967: 34). His Fundamentals of General Psychology are said to have given the first elaboration of theoretical propositions in the psychology of personality (ibid.: 35). His principle of the unity of consciousness and activity is recognised as one of the contemporary fundamental axioms of Soviet psychology (ibid.: 26). Besides this, a large number of his articles are still being reprinted in various Soviet psychological journals. Volume 1 of the Psychological Research in the U.S.S.R. edited by Leontyev, Luria, and Smirnov (1966) reprinted Rubinshtein's famous article entitled "Problems of Psychological Theory" which was written in 1952.

c. Blonsky

In psychology, long overdue debt was paid to Blonsky in the early sixties in the form of his Collected

Psychological Writings edited by Smirnov, Teplov and Kolbanovski. This volume included his Outline on Scientific Psychology (1921), a paper entitled "Psychology as a Science to Behavior" (1925), a treatise on The Development of Thought in Schoolchildren (1935), as well as three shorter contributions on memory. A biography of Blonsky was prepared by Kolbanovski. Blonsky's pedological errors were referred to in the Pedagogical Encyclopedia (1964-1965), but, nevertheless, he is said to have corrected these errors after the 1936 decree on pedology. Along with Kornilov, Blonsky is said to have been the first "to raise the banner in the struggle for the construction of a Marxist psychology" (Smirnov, 1967: 20).

D. Luria

The reinstitution of Aleksander Romanovitch Luria (1902-1977) happened around the same time as that of Vygotsky and Leontyev. In 1962 (and up to 1972) he was vice-president of the International Union of Scientific Psychology. In 1968, he became a foreign member of the U.S. National Academy of Sciences. From 1967 up to his death, Luria became head of the neuropsychology subdepartment of the Department of Psychology of Moscow State University (Soviet Encyclopedia, 1973, Vol. 15: 190). Luria is presently considered as "one of the founders of neuropsychology" defined by him as the study of the cerebral basis of man's activity. He was awarded the Order of Lenin "and several other medals" (ibid.).

In 1962, a collection of Luria's contributions to neuropsychology, based on research conducted in the nineteen thirties appeared under the title of Higher Cortical Functions in Man and Their Disturbance in the Presence of Local Brain Lesions. In 1963, a volume appeared under the title Human Brain and Mental Processes: Neuropsychological Studies which is a collection of Luria's contributions to neuropsychology, written and in part published in the thirties. Seven of the ten contributions in this book were written (but not published) between 1938 and 1951 during the "lean years" of Soviet psychology.

In 1976, appeared two works by Luria:The Making of Mind and Cognitive Development. The latter contains the results of a series of research never published in the time they were conducted in 1931-1932. Because of the importance of this work in developing Vygotsky's ideas to which Luria admits to be greatly indebted, we will give a brief description of its content.

The Sociohistorical Shaping of Mental Processes

In 1930, Luria and Vygotsky had published a monograph entitled Essays in the History of Behavior. This work suggested the possibility that the principles that had been applied on individual development might have parallels in sociohistorical development. In his work with Vygotsky, Luria had stressed that historical in the context of child development should not be understood as an individual phenomenon. Using the Vygotskian concept of signs via which mediation occurs, Luria claimed that these signs should be considered as a distilled result of the history of a given society.

Vygotsky, Leontyev and Galperin had all shown that complex forms of cognition which constitute human consciousness were the product of assimilation of socially formulated activity and bore a similar complex structure. Despite this, Luria felt that these investigations had yet to answer the questions of whether changes in sociohistorical structures or changes in the nature of social activity resulted only in expanded experience, and accumulation of new knowledge, or whether they yielded to a fundamental reorganisation of cognitive processes, as well as changes at the structural level of consciousness and the acquisition of new mental systems.

Thus, in attempting to answer these questions, Luria carried research in remote regions of Uzbekistan and Kirghizia, where for centuries people had lived in economic stagnation and illiteracy, under the stifling authority of Moslem religion. In the beginning of the nineteen thirties, however, these societies were undergoing radical restructuring of their economy, rapid elimination of illiteracy as well as the removal of the influences of Islam. Luria thought these circumstances to be extremely propitious for the elicitation of a "genuine revolution in cognitive activity".

Thus, Luria concentrated on the changes which took place, as a result of these changes, in the structure of mental processes associated with abstraction, perception, generalisation, deduction, reasoning, imagination and self-analysis. The pool of his subjects was constituted with Ichkari women and peasants who lived in remote villages and who had never been exposed to anything but life on the farmlands. There were three other groups which Luria tested. These consisted respectively, of women who attended short term courses, active collective farm workers, and women students admitted to a teachers' school after two or three years of study. The relative heterogeneity of these groups, emerging from a society in transition, offered an ideal "champ d'action" for Luria. By administering a battery of tests on the aforementioned cognitive processes, Luria came to the conclusion that the fundamental social changes which these societies were undergoing caused the transition from graphic and functional (concrete and practical) methods of thinking (characteristic of the first group) to much more theoretical and abstract ones (evident in the last three groups with varying degrees) (Luria, 1976).

Luria was able to observe that practical thinking and elementary types of consciousness predominate in societies characterised by practical manipulation of tools, whereas more abstract activity, present in technological societies will bring, as a result, a higher level of consciousness (ibid.).

Luria's collaborators in the field of cognitive psychology makes it quite clear that, like Vygotsky by whom he was greatly influenced, he espoused the Marxist view of man, and took it as a starting point for his investigations. In his 1966 article, he had already said:

> Karl Marx already demonstrated that... man's mental peculiarities are formed in the process of historical development and that all the five senses are a product of world history.
> (p. 63).

GENERAL CONCLUSION

The aim of this work has been a multifold aim: On the one hand, to present in a systematic fashion Soviet Russian dialectical materialism and on the other hand, to outline the development of Soviet psychology from 1917 to the present on the basis of the teachings and principles of Marxist-Leninist philosophy. In the course of our endeavour to submit Soviet philosophy and psychology to a critical survey, and to show the link between the two, we came across some interesting patterns and characteristics of Soviet thought which called for our attention because of their strong and persistent presence. Thus, we realised that to outline the philosophy of dialectical materialism *in detail* and not only in a brief schematic fashion was necessary if one is to achieve a deeper insight into the link which ties philosophy, science and ideology in the Soviet Union, a link which is not so explicit in the Western world because of the abundance of philosophies and ideologies permitted to flourish in it. Thus, we did not *select* those elements of dialectical materialism of relevance to Soviet psychology. Rather, we sought to reflect the relationship between the container and the contained: The Marxist-Leninist principles on which Soviet psychology is built are contained in dialectical materialism which thereby constitutes the general framework for Soviet psychological theory.

Soviet philosophy is built, as we have seen, on certain axioms unamenable to change by virtue of the authority of their pronouncers, especially Engels and Lenin. The major tenets on which rests the edifice of Soviet dialectical materialism are the primacy of matter over spirit, the materiality of the objective world, the dialectical character of reality and the reflection character of knowledge. These tenets roughly belong to the larger divisions of dialectical materialism into materialism, dialectic and theory of knowledge, respectively.

The basic question of philosophy with which we started our account of dialectical materialism and the materialist answer given to it in the form of an affirmation of the primacy of matter over spirit and the knowability of the world, sets the foundation of philosophical materialism and the principle of materialist monism. Soviet writers see their conception of nature and man as stemming from the theory of the material unity of the world which was elaborated by Engels in Dialectics of Nature and Anti-Dühring, and on which they heavily rely in presenting the doctrine of materialism. Matter which is equated to nature is infinite, eternal and in constant motion. Space and time are real forms of existence of matter, and like matter, they are infinite and eternal. Matter is a philosophical category which designates that the world exists outside consciousness and independently from it. This was Lenin's contribution to the concept of matter, one which was directed towards the preservation of the link between epistemology and ontology on the one hand, and between philosophy, science and ideology on the other hand; the opposition between matter and spirit does not hold outside epistemology; every new scientific advance does not affect the philosophical concept of matter as such, for, whereas science is concerned with the internal structure of matter, its properties and functions, philosophy on the other hand is concerned with giving an all-encompassing definition of its subject matter, one which cannot be altered or destroyed by any further discoveries pertaining to the structure of the atom, the electron, etc.

Contemporary Soviet philosophy which has adopted Lenin's views once and for all is eager to preserve the purity of its tradition. Any slight terminological changes which the concept of matter underwent in Soviet philosophy were never seen as such. Rather, it was always claimed to be "what Lenin really meant". Such was the case, for example, with the dual concept of matter - one philosophical and one scientific - when the term "structure and forms of matter" was substituted to that of "scientific concept of matter". Faithful to Lenin who saw in philosophy an extension of politics in the domain of theory, and who thereby attempted to make science as partisan as philosophy itself is, Contemporary Soviet philosophy suddenly realised (in 1952) that to emphasise the distinction between science and philosophy through a separate concept of matter for each one presents the danger of further concluding that communist partisanship is restricted solely to philosophy.

Preserving the purity of the Marxist-Leninist tradition and at the same time reconciling Engels and Lenin's pronouncements with contemporary science is not an easy task. What precisely is meant by saying that space and time are forms of the existence of matter, and how can this best fit with the notion of gravitational fields? Is matter to be taken as a transcendental ontological category, or is it to be defined solely in epistemological terms? These and similar questions are still awaiting answers.

Another difficulty arises with the concept of consciousness. The latter is said to be the highest product of matter, and yet, it is not to be conceived of as something material. Holding at one and the same time that consciousness is part of matter without being material is supposed to be explained by the dialectic and its laws.

In Soviet parlance dialectic comes to mean movement, change and evolution. It is often equated with the concept of dynamism, interconnection and interrelatedness of the phenomena of the world as opposed to a static conception of reality. The laws of the dialectic come to explain the changes which occur in matter in its inalienable connection with motion, time and space. Thus, matter is no longer a homogeneous property of all reality. Within the material unity of the world, there is room for specific differences. Thus the materialist monism of the classics is combined with a form of categorical pluralism. Engels had already conceived of reality as hierarchically divided into distinct levels each with its own specific laws. The laws of a higher order cannot be explained by, or reduced to the laws of a lower order since transition from one level to another higher one is achieved through a leap via which a new element is added. These levels are conceived of as different forms of the motion of matter, from mechanical change, ascending through chemical and organic change, to consciousness and thought which are the highest form of motion of matter. The three laws of the dialectic, namely the unity and struggle of opposition, the transformation of quantity into quality, and the negation of the negation explain the origin, mechanism, and direction of change respectively. However, these laws as expressed in Soviet writings remain vague, general and mainly descriptive. Such questions as those pertaining to the differences between essential and non-essential changes, the former characteristic of the transition from inorganic to organic matter and the latter occurring within one order of reality are not touched upon. Moreover, and this is a more serious drawback, these laws which were first formulated by the "idealist Hegel" have undergone some changes under Soviet marxism, which changes were effected in order to preserve, justify and protect a régime which, according to dialectical logic should appear as subject to being surpassed by historical development. This point has already been raised by Marcuse (1958: 136) who rightly saw in the emasculation of the law of the transition of quantity into quality, the denial of explosive changes under socialism (sudden versus gradual leaps), and the notion of antagonistic versus non-antagonistic contradictions, the former occurring in capitalist societies and the later, under socialism, (ibid.) obvious signs of the "petrification" of the dialectic in Soviet Marxism.

We have already raised the question of whether the dialectic is applicable to nature conceived of in cosmological terms, outside history. The transfer of categories of historiosophy (elaborated by Marx in his endeavour to set Hegel's dialectic "on its feet") to the understanding of nature has stripped the Marxist dialectic of its historical logos, and erected its revolutionary principle into principles of natural being. The development of Soviet philosophy witnessed an intensification of this transfer of principles of historiosophy into cosmology. As a result, it seems that when reapplied to social theory, these laws lose their validity both as ontological and social laws.

The Marxist-Leninist theory of knowledge, the "other side" of Engels' basic question of philosophy states that thought is a subjective reflection of what exists objectively. Because the development of matter occurs according to the three laws of the dialectic, a correct reflection of matter would also reflect this dialectical character of reality. Thus, the laws of logic, being based on the laws of nature which they reflect, must be dialectical and knowledge itself is dialectical. This is Lenin's position in his Philosophical Notebooks whereby he asserts the coincidence of dialectic, logic and theory of knowledge, a thesis which shows its Hegelian inheritance. Lenin's copy-theory of knowledge in Materialism and Empirio-Criticism was a more primitive, almost mechanistic position, one which shows no traces of Hegelianism. According to it, knowledge is purely reflective, and the active role of the mind is not emphasised.

Soviet philosophy has inherited this dual position and incompatible as it may be, it has tried to preserve it all. The result is again a general confusion, vagueness and lack of epistemological clarity. The debate which occurred in Soviet philosophy over the exact meaning of the word "sovpadenie" (coincidence/identity) used by Lenin to specify the relationship between dialectic, logic and theory of knowledge, is one sign of this confusion. The debate pertaining to the place of dialectical logic in the system of Marxist-Leninist philosophy is another, perhaps more explicit sign of such a confusion.

According to Soviet philosophy, our thought process (the subjective dialectic) is the reflection of the development of material reality (the objective dialectic). The laws of thought and of being coincide in content, though they differ in form. Dialectic includes both theory of knowledge (epistemology) and logic which is concerned with the laws of the development of thought. The reintroduction of formal logic along with dialectical logic in the curriculum of higher institutes of learning in the Soviet Union after 1950 is again a sign of the accommodation of the philosophical front to fit new ideological needs, in this case, the move towards the second stage of socialism, with a wider, international perspective. For all the praise it has earned in Soviet writings, dialectical logic seems to share the vagueness and confusion characteristic of most of the tenets of Soviet philosophy. Thus, there is a confusion between contradiction and the principle of excluded middle, between contradictory and contrary opposites, between identity and unity. Moreover, this logic which is indeed of a very peculiar breed does not contain one single rule from which one could draw any deductions.

Soviet philosophical writings exhibit an incongruent mixture of ideas pertaining to the theory of knowledge. As in _Materialism and Empirio-Criticism_, sensation is considered the source of knowledge, which is the reflection of nature, and practice is the basis of knowledge and the criterion of truth. To this is added Lenin's speculations in the _Philosophical Notebooks_ pertaining to the active function of the mind in abstracting and generalising concrete sense-knowledge. A clarification of the status and nature of thought in a thorough-going materialism, an explanation of the interaction between mind and body, a reconciliation of the passively reflective aspect of knowledge and the abstractive activity of mind are questions which are not answered in any clear way in Soviet philosophical writings.

Perhaps the reason which lies behind the lack of exactness and clarity exhibited in the doctrines put forth by dialectical materialism partly consists of the fact that the aim of philosophy in the Soviet Union does not reside in the quest for truth, but in an altogether different purpose. In the Soviet Union, philosophy is on the whole far more intimately connected with ideology than in any non-Communist country. Because of the principle of partiinost established by Lenin in the field of philosophy and science, philosophy as such is clearly subservient and subordinated to Party control and party needs. The basic statements of Marxist-Leninist philosophy are thus not open to critical philosophical analysis on the part of Soviet philosophers. Though originally amenable to analysis when enunciated by Marx, Engels, or Lenin, they have now become basic dogmas accepted as proven because of the authority of the Party. As Althusser (1971: 64) pertinently remarked, philosophy in the Soviet Union represents politics in the domain of theory. Its master function lies in drawing a dividing line between true ideas and false ideas. This function is the same one incumbent on the class struggles: to draw a dividing line between the class friends (proletariat) and class enemies (bourgeoisie). Thus, philosophy represents the people's class struggle in theory and at the same time, it helps to distinguish in theory (science) and in all ideas, whether moral, political or ethical, between true and false ideas, i.e., between communist and non-communist ideas (ibid.: 23-24). The function of philosophy vis-a-vis science thus takes a double form: On the one hand it is positive in that it assists scientific practice and negative in that it defends this practice against all types of anti-materialism whether it be idealism, agnocticism, fideism, etc. The effects of both the positive and negative role of philosophy, we have referred to under the global title of "ideology". These effects can be best exemplified in the history of development of Soviet psychological theory. Any deviations from the established line which occurred within this science was denounced and immediately demised, and what is more, the Party reserved itself the right to decide whether in the last instance, a given theory was congruent with the spirit of dialectical materialism, or whether it was anti-Marxist.

Althusser (1971: 60-66) rightly remarks that Soviet ideological thought revolves around a double relationship:
1. The relationship between philosophy and science, and
2. The relationship between philosophy and politics.
Whereas the first relationship, namely the instance of the sciences is to be found in Engels, the second relationship, namely the instance of politics is found in Lenin who thereby added to the domain of Marxist philosophy precisely what was missing from Engels. That Engels and Lenin's writings are the constantly quoted authorities in Soviet philosophical writings is therefore not so surprising.

The fight over words and the utmost importance accorded to them in Soviet thought is not strictly a matter of dogmatism. If one keeps in mind that in political, ideological and philosophical struggle, words do not only represent ideas, but that they are also weapons, explosives, tranquilizers and poisons, this fact gains in clarity. In the words of Althusser (*ibid*.):

> Occasionally, the whole class struggle may be summed up in the struggle for one word against another word [proletariat-bourgeoisie; materialism-idealism, etc.]. Certain words struggle amongst themselves as enemies. Other words are the site of an ambiguity:

> The stake in a decisive but undecided battle.

The constantly recurring statements pertaining to the effect that Soviet society is a socialist society without exploitation, or that capitalism is reactionary, that it entails exploitation and injustice, no longer have any cognitive value. Rather their value is pragmatic and practical. As such, these statements and other strictly philosophical ones acquire a magical element which defy reason, but which nevertheless become part of the scientific management of society. In the words of Marcuse (1958: 87-89):

> In endless repetition, the same noun is always accompanied by the same adjective and participles; the noun 'governs' them immediately and directly so that whenever it occurs, they follow 'automatically' in their proper place. The same verb always 'moves' the proposition in the same direction, and those addressed by the propositions are supposed to move the same way.

This ritualised function of language does not leave much room for freedom of feeling and consciousness to those obliged to use this language (Soviet philosophers, for instance) and to the population which is supposed to adhere to communism.

In our presentation of dialectical materialism, we tried to bring out the dogmatic and even scholastic character of Soviet philosophical writings by providing a thorough documentation pertaining to the way these writings exhibit a uniformity of style and expression in dealing with their subject-matter. Indeed, Soviet philosophers do not have any pretentions to originality or novelty. Their philosophy was laid down once and for all by the classics of Marxism-Leninism; their role is to act as spokesmen to these classics and to attempt to show that their philosophy remains valid and true regardless of what science has, or will ever discover.

In general, Soviet philosophers feel that their philosophy is a complete but not a completed world view. In this regard, the relationship to science is vital. Soviet philosophers claim their discipline to be open to unending possibilities of change and improvement, a claim which contradicts the fact that present day Soviet dialectical materialism has not undergone major changes since Engels' and Lenin's time. On the other hand, the constantly recurring claim in Soviet writings that the Soviet scientist is guided and inspired at every step by the principles of dialectical materialism is somewhat hard to accept. Many a critic in the Western world has raised the point that official statements on philosophy, particularly concerning the application of the dialectical method to other fields of study, "ring hollow" in the face of the evidence at hand. However, Soviet psychologists do take seriously the proposition that the basic theoretical problems of psychology have to be solved before

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experimental work can be adequately achieved. We will here briefly summarise the content of an article by Leontyev (1977) entitled "The Dialectical Method in the Psychology of Memory". In this article Leontyev establishes a comparison between the approach taken by Empirical psychology on the one hand, and dialectical psychology on the other, in their approach to the study of memory:

Empirical Psychology	Dialectical Psychology
1. Empirical psychology views the objects of its study as finite, static structures accessible to direct investigation. It studies the relationship among different psychological functions in isolation, in an abstract or mechanist way.	1. Dialectical psychology views its subject matter as the result of socio-historical development. In this view, mental phenomena are not static and unchanged; rather they change under the influence of human sociohistorical experience.
2. As a result of (1), empirical psychology studies memory as an absolute function. This is manifested in two methodological tendencies: a. To reduce higher forms of memory to lower forms, which means the denial	2. The dialectical method in psychology studies the interrelationship between the various forms of memory. It studies that which is specific and distinctive about phenomena. This leads to:

Empirical Psychology	Dialectical Psychology
of the uniqueness of these higher forms, and opens the door to dualism and agnocticism.	a. The analysis of how memory develops and how its lower forms are transformed into higher ones,
b. To construct idealist concepts to explain these higher forms in terms of factors outside the immediate object of inquiry. This opens the door to idealism.	b. The elaboration of the methodological premise of the problem and the methods of inquiry involved.
3. The method of inquiry here is restricted to laboratory investigations of meaningless syllables which disregard the complex aspect of human memory. Phenomena are superimposed on each other and compared on the same level in terms of the relationships of identity, coordination, or coexistence. As a result of this, phenomena are not studied in their natural interrelationships.	3. The dialectical approach does not consider the superimposition of phenomena as a linear sequence, but rather as a system of complex interrelationships between the base and the superstructure. The task of the investigator is to study the base and the superstructure of phenomena keeping in mind that the cause of the former is a partial cause of the latter.

Empirical Psychology	Dialectical Psychology
	In addition to this, there exists a specific cause proper to the given phenomenon, the study of which allows the understanding of the general laws underlying the phenomenon.
4. Empirical methodology studies the relationships among different psychological function in isolation, in an abstract and often mechanist way. Moreover, it tends to substitute the term memory by other terms, such as "reproduction", a fact which does not solve the problem but merely displaces it.	4. Dialectical methodology studies human memory by comparing the various stages of its development. It also studies the process of transition from one form to another higher form potentially contained in the previous one, as well as the conditions which enable this transition. The concept of memory is conceived of as a process and elaborated dialectically.

Such attempts as Leontyev's are abundant in Soviet psychological literature. And although one can raise the point that the above demonstration of the workings of dialectical method in the study of memory is not a method in the usual sense of the word, the fact remains however that the claim that Soviet psychology incorporates the teachings of dialectical materialism is a valid one. This claim is best exemplified in the history of development of Soviet Russian psychology.

In our presentation of the development of Soviet psychological theory on the basis of dialectical materialism, we have distinguished four major periods, each one of which containing some phases and sub-phases.

The first period, entitled "the mechanist period" contains two major phases. The years which followed the 1917 Bolshevik Revolution were characterised by an extensive purge of Western influences in Russian psychology, and the attempt to build a truly materialist psychology. The year 1923-1924 marked the end of idealism as a major trend in Soviet psychology. It was during the phase dating from 1924 to 1929 that Marxism may be said to have won acceptance as the foundation of Soviet psychological theory. Bekhterev's reflexology, Kornilov's reactology and Pavlov's conditioned reflex school were presented for consideration as the true bearers of Marxist theory. However, these schools were strongly mechanistic, a fact which led to their demise by the state towards the end of the nineteen twenties. Vygotsky's attempts to correct the reductionist elements inherent in the thought of his contemporaries were unfortunately not recognised during that time.

The second period of development of Soviet psychology lasted from 1929 to 1950. It was characterised by attempts to incorporate the principles of dialectics, the Leninist theory of reflection and the principle of training in the development of the child, in this order. The first phase of this period which, we have entitled "the mechanist controversy", lasted from 1929 to 1931 and marked a turning point in the history of Soviet psychology. During these two years a number of debates took place which led to the official condemnation of the mechanists and to an increase of interest in problems of social and collective psychology. The years 1930-1936 were characterised by an extensive criticism in which all the available schools were closely examined to determine their degree of compliance to Marxist-Leninist principles. It was during those years that Vygotsky's cultural historical theory emerged as an original attempt to redefine Soviet psychology on Marxist grounds. Unfortunately, this was again denied and Vygotsky along with his collaborators was rejected. The 1936 decree against pedology and industrial psychology marked the start of a long period of conformity during which no major discussions occurred on the psychological scene. Rubinshtein's views marked the final definition of the line which evolved out of the 1936 decree. They remain the most adequate statement of that line.

Materialism, dialectics and Lenin's theory of knowledge remained the basic foundation of Soviet psychology up to 1950 when a new element was added in the form of an insistence that biological sciences in general and psychology in particular must be established, not only on dialectical materialism, but also on Pavlov's teachings and theories. The 1950 Pavlovian Conference instigated by Stalin himself marked the beginning of a new period in Soviet psychology, during which Pavlov achieved the status of a "classic". Psychologists were faced with the hard task of achieving a union between dialectical materialism and Pavlov's system which was akin to reductionism, mechanism and positivism. This meant that the subject matter of psychology had to be redefined and its relationship with physiology specified. Several positions emerged in this context, among which Rubinshtein's writings which played a most significant role in the fulfillment of the new theoretical demands.

The year 1956 marked the beginning of a new epoch in Soviet psychology because of the important declarations made by Krushchev against Stalin during the 20th Congress of the Communist Party of the Soviet Union (February 14-February 25, 1956). The implications of the demotion of Stalin were profound and far-reaching. It affected every aspect of Soviet intellectual life. On the psychological scene, the dogmatism characteristic of the nineteen forties sharply decreased; new fields of investigations appeared which had previously been prohibited; Pavlov was no longer the demi-God of Soviet psychologists, and a strict adherence to his views was no longer obligatory. Some disciplines which were flourishing in the West also emerged in Soviet psychology. We can mention social and industrial psychology, child psychology, sport psychology, cybernetics, as well as interdisciplinary areas of study between psychology and neurophysiology. All these fields of psychological investigations in the Soviet Union are said by Soviet psychologists to be firmly founded on the principles of dialectical materialism. These principles were summed up by Smirnov (1967: 35-36), Luria (1976: 8-10) and Lomov (1979: 69-75). They are:

1. The mind is a unique property of highly organised matter and a lawful product of biological evolution. This materialist monist principle is directed against dualism and idealism in psychology (Lomov: 71).

2. Consciousness is the highest form of reflection of reality.

3. Mental activity is not simply reflection as a passive process. In contrast to animals whose behaviour is essentially adaptive, man actively transforms his environment and changes it according to conscious goals. This principle is against behaviourism which represents man as a passive being who merely responds to stimuli.

4. Consciousness does not represent, therefore, "an

intrinsic property of mental life, invariably present in every mental state and independent of historical development" (Luria: 8). Rather, according to the principle of the unity of consciousness and activity, Soviet psychology believes that consciousness is formed, developed and manifested in activity (Luria: 8; Smirnov: 34; Lomov: 73). Human action changes the environment so that human life is a product of continually new activities manifest in social practice.

5. All forms of human mental life are historically determined. They are the result of a long history of complex social practice. The tools which human beings in society used to manipulate their environment, as well as the products of previous generations shape the mind of the growing child and affect mental forms. This principle of historicism is thus at work both in the historical development of humanity, and in ontogenesis, i.e., in individual development.

6. Development occurs as a result of inner contradictions the resolution of which lead to qualitative transformations in the system of mental phenomena.

7. It is possible to direct mental phenomena by effecting appropriate changes in a person's life and activities.

8. Mental phenomena are linked to neurophysiological phenomena. These two sets of phenomena are part of a

single system. However, mental phenomena cannot be reduced to the laws of physiology; they retain a certain "automobility" and spontaneity in development.

9. Human personality is "the aggregate of all social relations" (Smirnov: 34). Soviet psychologists attribute prime importance to the characterisations of those mental functions in which the objective social relations find their expression and which form the nucleus of the personality. "It is precisely these mental relations that are the basic internal conditions through which external factors and influences are refracted" (ibid.) (according to the principle of determinism).

These are the Marxist-Leninist principles which Soviet psychologists of the present declare their science to be based on. In his 1979 survey of Soviet psychology, Lomov asserts that "the assimilation of the materialist dialectic has been very fruitful for psychology"(p. 75) and that the philosophical, methodological and general theoretical premises developed on its basis "have opened broad horizons for further progress toward a scientific understanding of extremely complex phenomena such as mental functions, processes, states, and properties in man" (ibid.).

However, the theoretical principles of the materialist dialectic are not the sole principles Soviet psychology is built on. Lomov reminds the reader that his science proceeds according to the Marxist-Leninist principle of the unity of theory and practice. That both theory and practice play a tremendous role in the development of science in general should not be forgotten: This means that "the prospects for the further development of psychological science are intimately bound up with the social practice of socialism and with the problems that occur in the process of building communism" (*ibid*.: 79). This is what Lomov considers to be the gist of the practical achievements of Soviet psychology over the last sixty years. Due to the new system of social relationships created by socialism, psychology has had an opportunity to investigate the "very process of development of the New Man" under conditions of "real socio-historical transformations" (*ibid*.: 75); its development has thus been "inseparably linked to the practical activities involved in building a developed socialist society" (*ibid*.: 75-76). The problems pertaining to human activity in the real world such as in industry, in transportation, in the educational system and in the public health system were tackled by Soviet psychology from "the very first years of Soviet power" (*ibid*.).

Thus Lomov mentions those "practical" areas which in recent years have been the major concerns of Soviet psychology. These are the areas which were already emerging in the late fifties and sixties and which are flourishing rapidly in the present time. They are:

1. Educational psychology (and here Lomov mentions the names of more than 25 persons working in this field) and along with it, developmental psychology which, according to Lomov (p. 77) now includes, not only child and adolescent psychology, but also the psychology of older people. The chief representatives of this field are V.N. Myasishchev, L.I. Bozhovich, V.A. Krutetskii, N.S. Leites, T.V. Kudryavtsev, etc., (ibid.).

Labour and engineering psychology which tackle the practical problems of coordinating technology and human behavior, and whose chief participants are B.F. Lomov, V.P. Zinchenks, A.A. Krylov, V.F. Rubakhin, V.A. Ponomarenko, "and others" (ibid.: 78).

2. Social psychology which deals with a variety of problems pertaining to the patterns of development of working collectives, interpersonal relationships, social attitudes, the psychological mechanisms of social control and other "related subjects" (ibid.: 79). The aim of social psychological studies carried out in industrial associations, in transportation, in school and in the mass media "all serve the worthy purpose of inculcating a sense of collectivism, the communist attitude toward work, and principles of genuine humanism and social optimism in the Soviet people" (ibid.). The first laboratory for social psychology was created at Leningrad University, and later, other laboratories and departments of social psychology were established at Moscow University

(under the direction of G.M. Andreeva) and at the U.S.S.R. Academy of Sciences (under the direction of F.V. Shorokhova) (ibid.).

3. Medical psychology which overlaps with such areas as neuropsychology and psychopathology and whose major representatives are A.R. Luria (who died in 1977), B.V. Zeigarnik, B.N. Myasishchev, B.D. Karvasarskii, E.D. Khomskaya, L.D. Tsvetkova, I.M. Tonkonogii, "and others" (ibid.).

4. Space psychology created in the context of the creation of spaceships and the selection and training of astronauts. The chief representatives of this area are F.D. Gorbov, G.T. Bergovoi, E.V. Khrunov, V.A. Popv, "and others" (ibid.: 78).

5. Another branch of psychology, namely organisational or management psychology was created in the Soviet Union after 1971 as a result of the declarations made during the 24th Congress of the C.P.S.U. which stated that "the improvement of systems of economic management and control is one of the most important problems of our time" (ibid.). Thus, as a result of this declaration, research into the psychological mechanisms of human behavior and of those specific psychological phenomena which take place when people work together (for instance, leadership and the psychological atmosphere) was begun. This branch of psychology also tackles problems of the

organisation of management systems and such areas which overlap with engineering, social, and educational psychology.

All the above mentioned areas of psychological research are mentioned by Lomov, not only as an illustration of recent developments in Soviet psychology, but also, first and foremost, as an illustration of the importance accorded to practice in present day Soviet psychology. In this context Lomov quotes Brezhnev's statement on the importance of practice for the development of science, a statement made at the 24th Congress of the C.P.S.U. (1971): "The introduction of new scientific ideas into practice is today just as important a problem as developing those ideas" (ibid.: 80).

Lomov gives some evidence of the results of practical implementation of the achievements of psychology in the sphere of economy. Thus he states (ibid.) that as a result of applying the recommendations of engineering psychology in working out a draft plan for the operators' station in ammonium production at the Shchekinskii Chemical Factory, fifty thousands rubles were saved every year. Similarly, the introduction of psychological recommendations for the partial rationalisation of dispatcher stations in a Ural factory saved 150,000 rubles a year (ibid.). And these are only isolated examples of how the application of the findings of psychological research helps improve labor productivity and how it helps "economizing" (ibid.).

But the importance accorded to practice does, by no means, mean that theory is undermined. On the contrary, coping effectively with practical questions is to a great extent contingent on solving the theoretical problems of science. In this context, Lomov quotes Brezhnev's statement at the 24th Congress of the C.P.S.U. (1971):

> At the present stage of our country's development, the need for further creative development of theory is by no means diminishing but, on the contrary, is becoming even greater. New possibilities for fruitful research of a general theoretical, fundamental, and applied nature are opening up on the borderlines between different sciences, in particular the natural sciences and the social sciences. These opportunities should not be lost.
>
> (ibid.).

And truly, psychology has improved considerably in the Soviet Union in recent years, says Lomov (ibid.: 81). Thus, apart from the various divisions and departments of psychology which were created in a number of universities in 1966, signs of new developments appeared during the nineteen seventies. Thus, in 1979, the Academy of Sciences set up an Institute of Psychology, intended to perform the functions of the chief institute for the development of psychology (ibid.). This institute will be developed as a complex scientific research establishment, combining social, general, and engineering psychology; labor psychology, psychophysics, psychophysiology, and neurophysiology. A systems theory of psychology, dealing with mental processes from various interrelated perspectives is being developed at the institute (ibid.).

The importance of theory as an underlying principle of Soviet psychology is not only a matter pertaining to the prestigious development of this science, which, being at once a social and natural science (ibid.) offers certain difficultires as well as "considerable opportunities for creative research". In the context of the importance attributed to theory and its link with practice, Soviet psychology is sure to fulfill the ideological demands of partisanship against all "perverse" bourgeois psychologies:

> Many general theoretical problems have become especially acute under current conditions in light of the fact that in Western countries psychology is often used directly to serve the purposes of ideological struggle.
>
> (ibid.).

Such is the case for instance with the American school of Jensenism (named after Jensen) which currently enjoys some fame in the West. Here, psychology is used to attempt to provide a foundation and a justification for racial discrimination by advocating the view that intellectual development is predetermined by a genetic program. Soviet developmental psychology took shape, according to Lomov (ibid.: 77) against this very "biologizing" tendency which ascribes to certain classes, races or nationalities, certain genetically determined limitations with regard to their capacity for mental development. Soviet psychologists are aware that the question of the sources of human behavior and how it may be controlled is not only an academic matter; rather, "it bears directly on ideology and ideological struggle" (*ibid*.: 82). Thus, if, as the behaviorists claim, human behavior is a result of stimulus and response, this means that those who have control of the stimuli behold the power to manipulate other peoples' behavior according to their own interests. Moreover, if, as the Freudians claim, man is, from the very outset, in a hostile relationship with society, then class divisions and exploitation would seem natural and inevitable (*ibid*.). Furthermore, if, as the "biologizers" in psychology postulate, the intellectual, physical and moral development of man is only the realisation of certain genetic determinants, this implies that social transformations have no power whatsoever to change man (*ibid*.). "Soviet psychology resolutely rejects all views that subserve the exploitation of man by man, justify racial and national discriminations, and proclaim pessimistic predictions with regard to the development of man and mankind" (*ibid*.). And although Soviet psychologists are closely and intimately associated not only with psychologists of other socialist countries but also with "representatives of progressive psychological thought" (Smirnov, 1967: 38) in other foreign countries; although they are prepared for "creative cooperation with all their foreign colleagues who affirm and develop progressive scientific views" (ibid.), Soviet psychologists, nevertheless "consider it their sacred duty to struggle against all that is perverted, outdated, and openly reactionary still remaining in foreign psychology, and to fight uncompromisingly for the triumph of Marxist-Leninist ideas in psychological science" (ibid.: 38-39). Herein lies the principle of partisanship in science; this principle is two-fold: on the one hand it preserves Soviet psychological theory from foreign "perverse" tendencies observed in the West through an "uncompromising" fight against them, and on the other hand, it directs the efforts of psychological research toward the building and prosperity of communist society and ideology:

> The goals of Soviet psychology are defined by the principles of a genuine humanism and social optimism, internationalism, real individual freedom, and democracy, i.e., the principles that guided the Great October Socialist Revolution and that have become a living reality in the developed socialist society constructed by the Soviet people under the leadership of the Communist Party.
>
> (Lomov: 82).

Whether it is true that "genuine humanism" and "real individual freedom" define the goals of Soviet psychology is something we leave to the reader to decide. As far as we are concerned, we have a feeling that these all too oftenly recurring statements in Soviet writings pertaining to the greatness of communism have lost their vital substance and have become hollow shells. This reminds us of Shakespeare's statement in Hamlet: "WORDS WITHOUT THOUGHTS NEVER TO HEAVEN GO".

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APPENDIX

LANDMARKS ON THE HISTORY OF SOVIET PHILOSOPHY AND PSYCHOLOGY

PHILOSOPHY

1917 - 1924 - Liquidation of non bolshevik philosophers.
1922 - Foundation of Pod Znamenem Marksizma under the editorship of A.M. Deborin.

1924 - 1929 - 3 trends in philosophy during this period:
1. The mechanists
2. The "menshevizing idealists"
3. The orthodox group.

Until 1925, the mechanists were on top of the situation.

PSYCHOLOGY

1917 - 1924 - Period of fight against "idealism" in psychology, and the attempts to materialise Psychology.
Blonsky's 1920 Reform of Science, and his 1921 Essay on Scientific Psychology.
1924 - 1929 - Period of extreme objectivism and mechanism:
- Pavlov's conditioned reflex schools
- Bekhterev's reflexology
- Kornilov's reactology
- Vygotsky's cultural historical theory - an exception to the reductionism of these years.

1929: Publication in the Soviety Union of Lenin's Philosophical Notebooks.
1929: Mechanism as a tendency in Philosophy and Psychology officially condemned.

1931 - Both mechanism and Deborinism officially condemned.

1931 - First condemnation of pedology and industrial Psychology

1931 - 1950
- A period of conformity.
- Decline of philosophical productivity

1931 - 1950
- Psychology on the decline
- Pedology officially prohibited in 1936 by a special decree.

- In 1938, Stalin's publication of "Dialectical and Historical Materialism"

- 1947 - Condemnation of Aleksandrov's History of Philosophy
- The journal Voprosy Filosofii is founded

- Rubinshtein's 1940 Fundamentals of General Psychology (condemned in 1947 along with Aleksandrov's work)
- Condemnation of Vygotsky's Thought and Language(1936)

1950: Stalin's "Letters on Linguistics"

- 1950: reintroduction of formal logic along with dialectical logic in universities.

- 1950: The Pavlovian Conference
- 1950 - 1955 - Debates on the nature of psyche.

1953: Stalin's Death

1955 - Aleksandrov appointed minister of Culture in 1954. He is dismissed in 1955.

- 1955 - Foundation of Voprosy Psikhologii

1956: Demotion of Stalin by Krushchev at the 20th Congress of the Communist Party

- A return to Leninism
- Adoption of Engels' presentation of the dialectic instead of Stalin's procedure.
- De-stalinisation of philosophy and philosophical sciences

- A broadening of horizons in psychology, and the reinstitution of Vygotsky, Luria, Leontyev, Galperin, etc. (1956 - 1960).
- 1962 - First Psychological conference after Stalin's death.
- 1966 - 28th International Congress of Psychology held in Moscow for the first time.